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Gleanings in Bee Culture



When bees and blossoms, men and weather,
Work for honey, and work together.

VOL. XLVIII

August, 1920

NUMBER 8

WAREHOUSE JUST BEING COMPLETED, TO
STORE YOUR HONEY

Let us store or sell it for you.

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Our^y Factory Has Been Enlarged 'to
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SUPPLIES & FOUNDATION

all the time.

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Now for the 1920
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"Griggs Saves You Freight"

BEE KEEPERS' SUPPLIES

QUALITY AND SERVICE

The honey flow is now on. Honey means Dollars to you; don't lose a pound of it by being short of Supplies. We carry a full line of Bee Supplies ready for prompt shipment to you, Hives, Frames, Supers, SECTIONS, Foundation, Extractors, Smokers, Comb Honey Shipping Cases, Tin Honey Cans and Pails. Our goods are ideal in quality and Workmanship. Learn more about our goods by sending for our catalog.

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We are always in the market to buy beeswax. Get our prices. Submit sample of your honey for our quotation. If in need of

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We can supply them in small and large lots. Try our service.

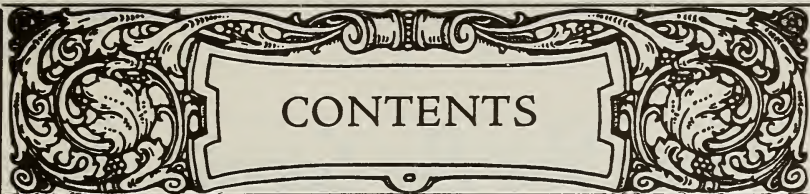
PRICES WILL BE HIGHER ON SUPPLIES.

THE A. I. ROOT COMPANY

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OF CALIFORNIA

1824 EAST 15th ST.
LOS ANGELES, CALIF.



CONTENTS

AUGUST, 1920

Honey Markets	452-453
Editorials	457-459
Get More Honey.....	Frank Coverdale 460-461
Texas as a Bee Country.....	E. R. Root 461-462
Introducing by Fasting.....	Elmer G. Carr 463
Portable Extracting House.....	Zena B. Wales 464
Getting Sticky Combs Cleaned.....	Chas. D. Blaker 464-465
Disease in the Northwest.....	E. J. Ladd 465-466
The Dawn.....	J. H. Donahey 466-467
Beekeepers' Conventions.....	R. F. Holtermann 468
Frequency of Supersedure.....	Dr. C. C. Miller 468-469
Siftings	J. E. Crane 470
Our Food Page.....	Stancy Puerden 471-472
Beekeeping as a Sideline.....	Grace Allen 473-474
From North, East, West, and South.....	475-477
Heads of Grain from Different Fields.....	478-483
Extracting Too Closely.....	Bill Mellvir 483
Gleaned by Asking.....	Iona Fowls 484-486
Talks to Beginners.....	Iona Fowls 487
Just News	488
Bees, Men, and Things.....	489-490
Our Homes.....	A. I. Root 491-496

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THE A. I. ROOT COMPANY, Publishers, Medina, Ohio

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25 per cent Discount

on Shipping Cases --- as long as our
stock lasts---Flat cases---2-inch glass
---24 sections each---25 to the crate

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4¼ x 1½	48.00	12.50	36.00	9.38
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Lewis Section Squeezers	..	\$4.80 each		\$3.60 each	
Frame Wedge Drivers	1.25 each		.94 each	

We are overstocked on the above supplies and offer them at 25% reduction while they last. Send your order AT ONCE.

They are All LEWIS BEEWARE

You had better order a "MUTH IDEAL BEE VEIL" than be sorry. . . \$1.60 each, postpaid.

Best Prices Paid for Honey

Send us samples of your honey and we will quote you a price equal to or better than that of any other concern. We buy and sell both comb and extracted honey. Cash remitted in full the same day shipment is received.

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We pay you the highest market price for rendered wax., less 5 cts. per pound rendering charge. Our special hydraulic steam wax press gets the very last drop of wax from the old combs and cappings, assuring you maximum profit on them. Write for full particulars

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HONEY CANS

Several cars just unloaded at our Ogden, Utah, and Idaho Falls, Idaho, warehouses ; more coming. We have anticipated the heavy demand and can fill your orders promptly. Avoid congested supers and loss of honey by ordering early.

SUPERIOR FOUNDATION

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We are still paying top prices. "Everything in Bee Supplies."

Superior Honey Company :- Ogden, Utah
(MANUFACTURERS OF WOOD PROCESS FOUNDATION)

HONEY

HONEY

HONEY WANTED

Send us a sample of your honey if extracted, state how put up and your price. We are also buyers of comb, can use unlimited quantities if quality and price are right. We remit the same day goods are received.

C. H. W. WEBER & COMPANY

2146 CENTRAL AVE.

CINCINNATI, OHIO

HONEY MARKETS

August is an important month in the honey market. The new crop at this time is coming out, and first prices are regarded as indicating to a considerable extent what the honey market of the new season is to be.

Special Telegraphic Reports.

To get an impartial forecast of the market, if possible, Gleanings on July 17 asked for telegraphic reports from a number of honey-producers' associations thruout the country, and received the following replies to this question: "For what price do you think producers warranted in holding their honey?"

Los Angeles, Calif., July 18.

It is our judgment that the prices as named by the Exchange of 20 cents on white orange and white sage, 18½¢ light amber sage, 17½¢ light amber alfalfa, are meeting with the approval of the trade, as evidenced by the fact that we are now entirely sold up on orange honey, and all our stocks of sage and alfalfa are very materially reduced. Some nice export business has substantially increased the movement of our crops. When we named prices above mentioned, it was done after carefully analyzing the general financial condition, also the forward situation on sugar, and, of course, many other points were taken into consideration in arriving at what we considered most equitable prices.—C. E. Mills-paugh, Manager California Honey Producers' Co-operative Exchange.

Waycross, Ga., July 21.

Dixie honey gone at 18 cents, 20 cents and 22 cents. None to hold.—J. J. Wilder, President of Georgia Beekeepers' Association.

Caldwell, Ida., July 18.

We believe 20 cents an equitable price for extracted honey of quality we produce; comb, \$6.50 for fancy, \$6.25 for No. 1, \$6.00 for No. 2.—P. S. Farrell, Manager of the Idaho-Oregon Honey Producers' Association.

Valparaiso, Ind., July 18.

Twenty-five cents wholesale per 60-pound can.—E. S. Miller, Chicago-Northwestern Beekeepers' Association.

Akron, N. Y., July 18.

Crop less than 30 per cent of normal. Producers ought to get at least 27 cents for white extracted honey in a jobbing way. No data on comb honey.—W. F. Vollmer, Western New York Honey Producers' Association.

Denver, Colo., July 18.

No less than \$7.50 for No. 1 comb and 20 cents for white extracted in carload lots. New prices of bee supplies would, however, justify a much higher price for honey.—Frank Rauchfuss, Colorado Honey Producers' Association.

East Lansing, Mich., July 18.

I find that there is a tendency on the part of the beekeepers to hold their honey for a higher price than was paid last year. In talking with a considerable number of beekeepers I find that they are of the opinion that extracted honey of good quality will sell at from 24 to 28 cents and possibly as high as 30 cents. There is practically no honey changing hands at this time and therefore no market is established.—B. F. Kindig, State Apiary Inspector, Michigan Honey Producers' Association.

San Antonio, Tex., July 18.

Producers of light grades are getting 18 to 20 cents; amber 16 cents. Do not advocate holding for certain price. Think honey should move as market demands. Advantage of sugar situation by beekeepers holding for advanced price would be as wrong as any other species of profiteering.—E. G. Le Sturgeon, President of Texas Honey Producers' Association.

U. S. Government Market Reports.

HONEY ARRIVALS, JULY 1-14.

MEDINA, O.—52,400 lbs. from California arrived.

SHIPPING POINT INFORMATION, JULY 14.

LOS ANGELES, CALIF.—Moderate wire inquiry, demand moderate, movement limited, market dull,

little change in prices. Carloads f. o. b. usual terms, per lb., extracted, white orange and white sage 19-20c; light amber sage 17½-18½c, light amber alfalfa 16½-17½c; Hawaiian light amber 15½c.

TELEGRAPHIC REPORTS FROM IMPORTANT MARKETS

(In many markets the term "jobber" is commonly applied to the original receiver who buys direct from the grower in carlot quantities. However, we use the term "wholesale carlot receiver" to designate carlot purchaser, while the term "jobber" refers to the dealer who buys in less than carlot quantities from the carlot receiver and who sells direct to retailers. The prices quoted in this report, unless otherwise stated, represent the prices at which the "wholesale carlot receivers" sell to the "jobbers." Arrivals include receipts during preceding two weeks. Quotations are for July 14.)

BOSTON.—No arrivals reported since July 1. Demand and movement light, market steady, very few sales. Sales to jobbers, extracted, per lb., California white sage and orange, mostly 26c. Comb, New York, 24-section cases, white clover, \$8.25-\$8.50; Vermont, 20-section cases white clover \$7.50.

CHICAGO.—No carlot arrivals, supplies light, demand and movement good, market steady. Sales to jobbers, per lb., extracted, Californias, Colorados, and Ohios, white, 21-22c, light amber 20c, dark amber 18½-19c. Comb, supplies practically exhausted. Beeswax, 15 tons African arrived. Domestic receipts light, demand and movement moderate, market weak due to heavy offerings of imports. Sales to jobbers, Idahos, Californias and Colorados, light 43-44c, dark 40c, African 33-35c.

CINCINNATI.—1 car California received. Supplies light, practically no demand or movement, no sales reported, all honey being bottled. Beeswax, supplies moderate, demand and movement moderate, market steady. Sales to jobbers, average yellow 44-46c per lb.

CLEVELAND.—Supplies of new stock liberal, demand and movement light, market weak. Sales to jobbers, per lb., extracted, Western, 60-lb. tins light amber 25-26½c, white clover 25-26c.

KANSAS CITY.—Approximately 75 cases arrived. Supplies moderate, demand and movement moderate, market steady. New stock, sales to jobbers, comb, 24-section cases, western light mostly \$7.00-\$7.50. Extracted, Colorado white alfalfa 22-23c per lb.

MINNEAPOLIS.—Demand and movement slow, market dull. Sales direct to retailers, western, comb, supplies practically exhausted, too few sales to establish market. Extracted, supplies light, 60-lb. cans light amber 20-22c per lb.

NEW YORK.—Approximately 50 barrels in boat from West Indies arrived since last report. Supplies increasing, demand and movement light, market weaker. Sales to jobbers and large wholesalers, extracted, domestic, per lb., Californias, light amber alfalfa and white orange blossom mostly 18-19c, white amber sage 19-20c, West Indian, refined light \$1.50-\$1.60 per gallon, light amber alfalfa 14-15c per lb. Beeswax, no domestic arrivals reported. Supplies moderate, demand and movement slow, market weak. Sales to jobbers and large wholesalers, South American and West Indian, crude, light 28-30c, dark 27-28c, African, crude, light 25-26c, dark mostly 24-25c.

PHILADELPHIA.—No arrivals since last report. Demand and movement slow, market dull. Sales to jobbers, per lb., extracted, California orange blossom 21½c, Porto Rican and southern, light amber \$2.05 per gallon, San Domingo light amber \$2.02 per gallon.

ST. LOUIS.—Receipts light, demand and movement slow, market dull, little change in prices, almost too few sales to establish market. Sales to jobbers, per lb., extracted, in cans, mostly southern, light amber 16-18c, Californias, light amber 20c. Comb, no sales. Beeswax, too few sales to establish market.

George Livingston,
Chief of Bureau of Markets.

Special Foreign Quotations.

DOMINICA.—Honey is being bought locally for export at \$1.30 per gallon, the purchaser furnishing the barrels. This has been a rise in price since the beginning of the season from 80c.—E. L. Sechrist, Monte Christi, R. D., June 20.

CUBA.—The price of honey is \$1.30-\$1.40 per gallon. Wax is \$37.00 per 100 lbs.—A. Marzol, Mantanzas, Cuba, July 7.

Opinions of Producers.

Early in July we sent to actual honey-producers scattered over the country the following questions:

1. How do you think the crop in your locality will compare with a normal crop?
2. How many colonies are there in your locality compared with the number last year?
3. Have buyers made any offers for honey?
4. Have any producers sold or contracted their crop yet?
5. If so, at what price.
6. Those beekeepers who have not sold, will probably hold for what price?

Answers, as condensed by the Editor, are as follows:

BRITISH COLUMBIA.—Present prospects are good for a normal crop. Prices will be about the same as last year.—W. J. Sheppard.

CALIFORNIA.—Crop normal; number of colonies 150 per cent. Buyers offer 16-21c for white honey. Producers sell practically all thru the Exchange; those not having sold will probably hold for 20-25c.—L. L. Andrews.

COLORADO.—Prospects good for normal crop; spring count of colonies about the same. I have heard of no offers from buyers nor of any producers having sold; will want probably 20c for white honey.—J. A. GREEN.

IDAHO.—Crop normal or a little above; 110 per cent in number of colonies. Producers have not yet sold; will probably hold for 20c upward for extracted.—E. F. Atwater.

ILLINOIS.—Crop one-half of normal; number of colonies 75 per cent. Buyers have not made offers, nor have producers sold their crop. Beekeepers will probably hold for 25-30c.—A. L. Kil-don.

INDIANA.—Crop normal; number of colonies 75 per cent. Buyers have not made offers yet, nor have producers sold. Beekeepers will probably hold for about same as last year.—E. S. Miller.

IOWA.—Crop and colonies about normal. Season late, and producers have not sold their crop yet, but they will probably hold for 25c on extracted in big lots. Not much comb honey produced here.—Frank Coverdale.

FLORIDA.—Away from the coast about 10 per cent of a normal crop; from mangrove about 75 per cent. Number of colonies about the same. Home demand takes all the crop. I am selling at 18c.—Ward Lamkin.

MARYLAND.—Crop and number of colonies about 75 per cent normal. Producers have not sold their crop yet.—S. G. Crocker, Jr.

MASSACHUSETTS.—Crop and number of colonies normal. Buyers have not made offers yet, nor have producers sold their crop. Honey is retailing at last year's prices.—O. M. Smith.

MICHIGAN.—150 per cent of normal crop; number of colonies 40 per cent. Buyers have not made offers nor have producers sold their crop. Beekeepers will probably hold for extracted 24-28c and about 35c for comb.—B. F. Kindig.

MINNESOTA.—Crop normal; number of colonies 75 per cent. No offers, nor have producers contracted their crop yet; will probably hold for about 20c (extracted, wholesale). Biggest flow in years, but weather continues not the best, and fewer colonies than usual.—C. D. Blaker.

MISSOURI.—Crop better than for three years. Buyers have not made offers yet, nor have producers sold their crop.—J. W. Romberger.

NEBRASKA.—Crop and number of colonies normal. Buyers have not made offers yet, nor have producers sold.—F. J. Harris.

NEW YORK.—Crop 20 per cent normal; number of colonies 50 per cent. Buyers have not made offers and producers have none to sell.—Adams & Myers.

NEW YORK.—Crop normal; number of colonies 90 per cent. Too early to say what prices will be.—T. W. Lesser.

NEW YORK.—Crop 50 per cent of normal; number of colonies 40 per cent. Buyers have not made offers yet nor have producers contracted their crop.

Prices will probably range a little higher than last year.—George H. Rea.

OKLAHOMA.—Crop 90 per cent normal; number of colonies normal. All honey is handled on local market; extracted 25-30c, comb 35c.—C. F. Stiles.

ONTARIO.—Sixty per cent of normal crop; number of colonies only one-half. Beekeepers are asking 25c wholesale and 30c retail for clover extracted, and expect prices to increase 5c over last year.—F. Eric Millen.

PENNSYLVANIA.—Crop about average; number of colonies 70 per cent. Producers have not sold yet; most of crop is sold in near-by towns; not much harvested yet. Beekeepers will probably hold for 23c, shipping point.—Harry W. Beaver.

TEXAS, south-central and southwest.—Crop is slightly above normal; number of colonies increased 10 per cent. Buyers are offering from 14 to 24c, according to quality and manner of delivery; spring crop is largely sold, at an average of 20c; some beekeepers holding for 24c.—H. B. Parks.

TEXAS.—Crop 25 per cent below normal; number of colonies increased 10 per cent. Producers have sold at 17-24c for extracted and 22-24c for comb; much honey yet in hives; some prospect for a mesquite flow.—J. N. Mayes.

EAST TEXAS.—Crop 25 per cent short; 30 per cent of colonies lost. Producers have not sold yet, and will hold for 18-20c wholesale and 30c retail.—T. A. Bowden.

UTAH.—Crop is normal; number of colonies 20 per cent less. Buyers offer 19c for extracted, but producers are not selling yet; some holding for 20c. Extracting is two weeks earlier than usual.—M. A. Gill.

WASHINGTON.—Crop and number of colonies more than normal. Buyers have made no offers nor have producers contracted their crop yet. In this valley the bees are just beginning to store, and no beekeeper knows just what to hold for.—George W. B. Saxton.

WISCONSIN.—Crop not up to average. Producers have not sold yet; those around Madison hold for 35c retail and 30c in 60-lb. cans wholesale.—H. F. Wilson.

In NEW YORK

Our new offices and warehouse are now newly and permanently located in larger and better quarters owned by ourselves, at
23 Leonard Street.

THE A. I. ROOT CO.



HONEY FINEST MICHIGAN
Raspberry, Basswood
and Clover comb and
extracted honey. Unexcelled for quality and
flavor.

Crate 6 cases (24 sec.) Fancy Comb \$39.00
Crate 6 cases (24 sec.) A No. 1 Comb 36.00
Crate 6 cases (24 sec.) Extra Fancy 42.00
Two cans (120 lbs.) Extracted 30.00

Send Today for Free Sample.

W. A. LATSHAW COMPANY, Clarion, Mich.

Large, Hardy, Prolific Queens

Three-band Italian only. Pure mating and safe
arrival guaranteed.

One, \$1.30; 6, \$7.50; 12, \$13.50; 100, \$110.00

Buckeye Bee Co., Lock Box 443 Massillon, Ohio

ITALIAN BEES AND QUEENS

We are prepared to give better service in every respect than we have ever given in Bees and Queens and supplies

UNTESTED QUEENS

To June 15th		After June 15th	
1	\$1.50	1	\$1.25
12 or more	1.25	12 or more	1.00

TESTED QUEENS

To June 15th	\$3.00	After June 15th	\$2.00
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BEEES

1-pound packages	\$3.00	2-pound packages	\$5.50
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We will furnish one comb filled full of brood with one pound of bees for \$5.50, no queen. You are almost sure that these will reach you in perfect shape. You get a 50c comb; they will build up much quicker than a 2-pound package. There is no danger of their swarming out.

NUCLEI

1-frame	\$4.00	2-frame	\$7.00	3-frame	\$9.50
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No queens included at above prices.

Nuclei are on good combs, full of brood with plenty of bees.

FULL COLONIES

We can furnish, and can ship on date specified, full colonies of bees in new hives, good comb, and good strong colonies with **Tested Queens**:

8-frame	\$18.00	10-frame	\$20.00
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DR. MILLER'S QUEENS

Let's make this a Miller queen year. Dr. Miller has furnished us breeders from his apiaries, and we are the only ones that he furnishes breeders to. In these queens you get the fruits of the foremost beekeeper of the world. We pay Dr. Miller a Royalty on all queens sold.

To June 15th		After June 15th	
1	\$2.00	1	\$1.50
12 or more, each	1.60	12 or more, each	1.25

We carry a full line of Root's supplies, including the new Root-Weed foundation, Prompt Service.

THE STOVER APIARIES

Successors to
THE PENN COMPANY
Penn, Miss.

MAYHEW, MISS.

Substantial packages are worth while for your high-priced honey

We sell ROOT SHIPPING CASES. They are well made and lined with corrugated paper thruout. The Standard Case holds twenty-four sections. We have a limited number of twelve-section and sixteen-section cases at a bargain.

FIVE-GALLON CANS.

The ordinary five-gallon can weighs about $2\frac{1}{4}$ lbs. Ours weigh 3 lbs. each and have a 3-inch screw-cap. It is heavier than most cases. A case and two cans weigh 19 lbs.

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We have the 5-lb. and 10-lb. pails in stock at Lansing. This means quick service and small delivery expense compared with shipments from some distant point.

NOTE: New crop comb honey wanted for which we can furnish cases and carriers. Extracted honey wanted for which we can furnish cans if preferred.



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510 North Cedar Street
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A 9% INVESTMENT

Invest your money in Lewis "Beeware" at 9 per cent.
Play safe on transportation delays, slow deliveries of
raw materials and the loss of your honey crop.

Buy Lewis "Beeware" in August

Get an Early Order Discount of 9%

Buy Lewis "Beeware" in September

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Cash Must Accompany Such Orders

This offer gives you an opportunity to save more money
than the interest on a loan for the amount at your bank.
It also enables us to avoid a "peak" of production load,
with delays, in the next honey season.

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For



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G. B. LEWIS COMPANY MAKERS OF "BEEWARE"

Branches and Distributers Everywhere.

Factory and Home Office—Watertown, Wisconsin.

GLEANINGS IN BEE CULTURE

AUGUST, 1920

EDITORIAL

WHEREVER beekeepers meet just now the probable price of honey is discussed, and,



Honey Ought to Bring a Good Price.

altho there are rumors of future prices ranging all the way from 15 to 30 cents, many bee-

keepers claim they will hold for 25 cents in carload lots.

The price the producer will receive for his honey and the price he should receive may differ considerably, as they sometimes have differed in the past. If so, who will be to blame? It will be the producer who is to blame. So long as he continues to be satisfied to sell at the first chance and at the buyer's offer, he really has little right to complain of prices. Now this does not mean that it is wise or justifiable to hold honey for top-notch prices, but it does mean that **the producer should get a fair price for his honey.** We do not know what price honey will bring the coming year nor do we care to make any prophecy along this line, but we do know that if the beekeeper takes into consideration certain important factors he will not take a low price for his crop.

The average per colony will likely be very good this year, but let us not forget the heavy winter and spring losses referred to in our last issue. Again, we all know sugar is scarce and the price up. This naturally helps the honey market. When the beekeeper stops to consider these factors, together with the large increase in the cost of bee supplies, the increase in the cost of labor, and the continued high cost of all the necessities of life, we feel certain that he will realize that **he should have as much for his honey this year as he received last year, if not more.**

The honey market as it is today, and as it is likely to be in the future, is discussed and quoted more fully than usual on our "Honey Markets" pages of this number of Gleanings.



AS NOTED in our News Department of the July issue, the State of New York now has



New Foul-brood Law in New York.

a new foul-brood law, the same going into effect on May 13 last. It has some features in it

that may well be incorporated into the foul-brood laws of other States. In the main the

law is the same as all bee-disease laws; but the new sections make it a little more definite and of a wider scope.

Section 200A of the new law requires that the assessors report all owners of bees within their respective districts. It has been shown in hundreds of cases all over the country that there are not a few beekeepers with a hive or two located in some out-of-the-way places, and just where, if diseased, they would be a menace to all other bees in the neighborhood. It has happened more than once in New York and elsewhere that some good beekeeper would be constantly fighting disease and wondering why he could not get rid of it. After a period of three or four years he finally discovers that some inexperienced person has in range of his apiary a colony of bees, hitherto unknown to him, rotten with disease. The inexperienced beekeeper does not know that there is anything wrong, and in many cases will allow a hive, in which bees have died from foul brood, to stand open and free of access, a constant source of infection to all bees within two or three miles of him. It has hitherto been almost impossible for the foul-brood inspectors to get track of every beekeeper; and the purpose of this section requiring the assessors to report all bees will be perfectly obvious.

There is another feature, namely, that no person shall remove or transport bees that are suffering from disease from the place where kept to any point within the State of New York, except under a written permission from the Commissioner of Agriculture. Provision is made, however, that a diseased colony in a healthy apiary may be removed to a point of segregation or quarantine. It is further provided that no bees under quarantine shall be removed without permission, nor shall any person or transportation company receive any bees from a point within the State for another point therein unless the bees are accompanied by a certificate from an authorized inspector stating that such bees are in a healthy condition.

No bees from **without** the State can be moved into New York unless accompanied by a certificate from an authorized inspector showing freedom from disease. Unless there is such a certificate, the transportation company shall notify the Commissioner of Agriculture of the receipt of such bees.

These general features, so far as we can see, are good, and should be incorporated in

every law. They do not, as we understand it, prohibit interstate shipment of bees, provided they bear a certificate from an authorized inspector whence they came, showing that the bees are healthy.



OUR ISSUE for April, page 202, told of the wonderful progress that sweet clover is



The Onward March of Alsike Clover.

making thruout the West. As marvelous as that is, alsike is making far greater headway thruout the East, and wherever alsike grows, beekeeping flourishes. In the numerous trips the editor has been making he finds that alsike has practically supplanted the former old standby, red clover. The latter requires a considerable amount of lime, and, moreover, the soil must be good and not too wet.

There are several things that have influenced the farmers to drop red clover. A bushel of alsike-clover seed is cheaper than a bushel of the seed of red clover, and it will go twice as far in seeding, according to J. Sidney Gates in the Country Gentleman. The lime, likewise, is expensive—so expensive, in fact, that the farmer wonders whether he will ever get his money back if he puts it on his land. The county farm agents and experiment stations are telling him that alsike will grow on poorer land—on land having less lime, and on land too wet or too anything, in fact, to support red clover. The net result of this propaganda is that alsike is fast crowding out red clover.

Most farmers know that alsike grows splendidly with timothy. A mixture of the two makes a far better hay, especially for milk stock. The timothy also holds up the alsike where the latter grows up rank.

Mr. Farmer is also learning from high authority that alsike winters better than red clover. It will grow in colder and hotter climates; and, according to the authority already cited above, there are plenty of fields of it in the northern part of the southern States. It grows thruout all the cotton belt. It is a splendid crop to rotate with the cotton.

In a like manner alsike is being used to rotate with corn in the corn-belt States.

The only objection to alsike is its smaller growth compared with red or pea-vine clover; but its quality is superior. Nor is it quite as good for pasturage after the hay is cut.

This year, of all years, is the banner year for all the clovers on account of the frequent rains. The editor has been connected with this journal for 35 years; and never in all his experience does he remember a year when there was so much alsike and such a splendid growth. One good farmer told us yesterday, June 29, that he saw no reason why clover (alsike and white) should not continue to yield honey until August, and

we have had two weeks of a good flow already. So long a flow, if it lasts till August, is something we have never known before around these parts.

The onward march of sweet clover thruout the western States, and the tremendous increase in the amount of alsike clover thruout the eastern and northern States, make a very bright outlook for the honey business—not necessarily for this year only, but for the years to come. We well remember how, some 30 or 40 years ago, A. I. Root, almost single-handed, extolled the merits of sweet and alsike clover. The local farmers made fun of him; but a glance today over the country regions of the United States, east as well as west, proves that his vision of what was to come has more than been realized.

Alsike in the East has come to be a staple crop, and it is going to stay year in and year out. Unlike red clover, it is a perennial. When it once gets into a locality it is bound to stay in the meadows, the fence-corners, and come up spontaneously in the fields of timothy and red clover. It thrives like a noxious weed on good and poor land, and yet there is no better forage plant for bees or stock.

There is one more factor that is developing beekeeping in the East; and that is, the farmers have finally discovered the value of lime, and so lands that have always been sour are now being sweetened with lime. Clover of all kinds will then grow. This will mean that clover honey will be produced where formerly no clover grew.



WE WISH to urge with all the emphasis that lies at our command that it is utter



Warning to Extracted-Honey Producers.

fully for extracted-honey producers, after securing a nice crop of honey, to put it up in poor containers, poor second-hand or light-weight tin, and then lose several cents a pound on the entire shipment because the honey was not put up right. The principal causes of loss are: Square cans that leak because they are improperly boxed; square cans that are too light in the first place, or second-hand square cans of too light tin, and therefore too weak to serve in a second shipment. It should also be borne in mind that tin cans of honey in less than carload shipments suffer more damage than in full cars.

Even if the producer sells his honey f. o. b. at his station, he should use good containers. He may think it makes but little difference how the honey goes thru to its destination, provided he gets the cash for his honey before it leaves his station. But he should remember this fact, that the buyer, if he has bad luck with that shipment, will buy elsewhere next year; and if he buys again it will be at a considerable reduction. It is not only a question for this year but for all

time to come. If the producer will pay out a little more for good containers, the buyer will be more likely to pay more for the honey. Good containers have a salvage value, while poor ones are often worse than junk. Don't forget that.

The California Honey Producers' Co-operative Exchange, the Colorado Honey Producers' Association, and other societies of organized beekeepers have been urging on their members the importance of good containers. The managers of these organizations know only too well that the complaints they have had are on account of leakage that has spoiled the whole shipment in some instances. This causes no end of controversy between the producer, managers of the associations, the railroad companies, and the buyer. No one is satisfied. The producer as well as the buyer loses money, and the railroad company is inclined to advance its rate. In the mean time the manager of the association gets between the buzz saws on all sides.

Mr. Justice, former manager of the California Exchange, has been urging an extra-heavy tin can with $1\frac{3}{4}$ -inch screw cap; and Mr. Rauchfuss of the Colorado Honey Producers' Association has been recommending something similar; and they ought to know, because they have had experience, if any one has, of the loss that their members have sustained on account of poor containers. The A. I. Root Company knows something about the loss to producers and the trouble that arises on account of poor cans, and also, we might say, poor boxing of the cans.

The ordinary square cans holding 60 pounds of honey are usually made to hold a liquid not heavier than 8 pounds to the gallon. If just right for that weight of commodity, they are a little too light for a commodity like honey that weighs at least 12 pounds to the gallon. But our experience teaches us that it is not so much the weight of the tin can that causes the trouble as it is the poor box, especially a box without a center partition. We should much prefer a light-weight can in a good box with a center partition than a heavy can in a poor box without partitions. A box may be of good stock and well nailed but yet be too large. Even if there is a central partition, and the cans "shake" inside of the box, there is great danger of trouble. There should be a neat, snug fit.

Well, we will suppose that we have good cans, good boxes, with good fit and center partitions. A lot of producers make the serious mistake of nailing the covers on carelessly. The nails, instead of going into the wood, pierce the can. The result is a "smear" near the top of the can and of other cans adjacent. If the cans with nail-holes are turned upside down, the entire contents are lost, and a bad smear is over the bottom of the car.

Another mistake is the improper loading of the cases or boxes in the car. It is not only important to have no end or side play

inside of the boxes, but the boxes or cases must be snugly loaded in the car. If the car is not quite full the intervening space must be thoroly braced with 2x4 timbers so placed that the end shocks of the car due to the starting and stopping of the train may not break and let loose the boxes to tumble all over each other in a heap. If there is not quite a carload, it is far better to spread the cases over the entire car floor than to heap them up in the two ends of the car. In other words the load should be evenly distributed.

We are advised by the can men that it is rather difficult to get a special can for a particular weight, unless the order is placed early and in large quantities. The associations are able to get heavy cans; but individual beekeepers are not able to do so, as a rule, under present conditions—conditions that will probably prevail thruout the summer and fall. They will have to take what they can get in the way of cans. Ordinary square cans will do very well, provided they are properly boxed and the boxes braced in the car after loading. Always remember that a full car will go thru much better than a car not full.

The can companies are not particular about furnishing boxes with the cans; but the beekeeper can have his boxes made at his bee-supply factory or at the planing mill; but he himself should nail up the boxes to be sure they make a neat fit. A box that is too tight is about as bad as one that is too large.

During these strenuous times the extract-ed-honey producer will have to make the best of the situation. It is always wise to use caution in buying second-hand cans. If they have previously contained no ill-flavored honey, if they show no rust spots, if the boxes are well made and a close fit, they would be reasonably safe. Some second-hand cans are dear at any price.

It will bear repeating when we say it is a very poor policy to risk a crop of honey in poorly fitting boxes without partitions—much less a whole carload of honey; so we believe it is money well invested to throw away poor boxes and make new ones. And do not be afraid to use good nails and plenty of them. There are some beekeepers who are so unskilled in the use of a hammer and nails that they can well afford to hire a better man or even a carpenter, even at a dollar an hour, rather than to suffer the loss of ten or even a hundred times that paid out for such services.

As previously stated, the greatest loss from leakage from square cans is less in carload shipments. Cans that will go thru in good order in a full car that the producer loads himself may be entirely unfitted for less than carload shipments where cans are reloaded. It is here that heavy cans and good boxes are needed if ever. When they become second-hand they will have a good market. This is a point that producers often overlook when buying their containers.

THIRTY-FOUR years ago there was not a field of alsike clover in my part of the State, so far as I knew. It was then that I saw the first field;

and from that year this legume has become more and more popular among farmers generally, until now it furnishes the bulk of the clovers grown here. This was largely brought about at first thru my own efforts. Being a farmer as well as a beekeeper I was in position to learn its value, not only as a honey-producer, but as a valuable crop for seed and hay and for pasture and for all kinds of live stock. It has been discovered that wherever this clover has been grown, pastured, or cut for hay or seed, it comes up whenever the field is sown to any small-grain crop, thus making a good catch without further seeding. This is due to the fact that alsike produces sufficient seed to keep on hand in the soil enough seed for all ordinary occasions. Alsike is a very prolific yielder of seed, like white clover, and, like the latter, the bees work on it so freely that there is no lack of the blossoms' being fertilized. The above characteristics count for much, and will keep alsike clover with us for all time to come.

Alsike makes its best growth on land that is low and wet, and on deep loamy soils. On such lands it will grow to a height of four or five feet; but it will fall to the ground unless seeded with some other strong grass to hold it up—orchard grass or timothy being the best to seed with it. All one needs to do when alsike is once established in the land is to sow the timothy or orchard grass. On light soils and on dry upland the clover does not grow very tall but fills better for a seed crop. If wanted for hay it should be seeded with timothy. The two, when grown together, will result in a very fine crop of hay. Alsike is a better hay to cure, and will stand being rained on once or twice and yet be good hay; but red clover would be all but ruined by rains. This is because alsike has a smooth stem, while red clover has a hairy growth all along the stems, and consequently the rains turn it black, thus injuring its value materially.

Alsike will hold its own over any other clover, not only because it grows and thrives in soils so acid that red alfalfa or sweet clover would die outright, but, for reasons already stated, it will always remain wherever it gets a good hold. Alsike fills the same place that white clover does as a producer of honey, and it may be pastured and the bloom prolonged just as white clover can; or alsike may be mown early and a second bloom come on, and this second bloom will yield honey well, but this early mowing will not be at all practiced.

The lengthening of the period of yielding

GET MORE HONEY

Another Method of Increasing the Yield for Next Year. Help Spread the Facts Concerning Alsike

By Frank Coverdale

ing great satisfaction. The alsike being well adapted for thickening the stand, such fields show up well and make heavy crops of clover hay of fine quality; and if the first crop of this red clover and alsike is not cut too late, both alsike and red clover bloom together which, on account of the alsike, makes very good bee pasture. This is especially true during a moist season. From an economic point of view alsike should be seeded on every farm east of the alfalfa belt because it becomes a very valuable plant, and, a thing that will please every farmer, it is always coming up just as most bad weeds do when they once get their seeds scattered in the soil. One may say, "See what a fine stand of clover I have, and I didn't have to put my hand in my pocket either." In this case, if one wants red clover all he has to do is to sow it, as then he will get the mixed crop.

If red clover should become extinct in the clover belt it would be a serious loss to the bee industry, as much nectar is gathered from it. This is especially true when the crop is ripening and when the weather is dry and the grasshoppers eat off the tubes, making the nectar available to the bees.

Later I shall have something to say about sweet clover, which, when used in its place, is of paramount importance for live stock and for the production of honey and also as a crop to put land in the very best trim to grow other crops. I am growing all these clovers, and I believe it will finally come to this—each and every clover for its own place.

Alsike seed should never be covered too deep at seeding time. Aside from this the ground should be prepared and seed sown just as is the custom with red clover. Alsike does well, even where water partly covers the ground. It can be seeded in swamps where other grasses grow tall, and it will keep up—yes, to the height of six feet, just as the writer has seen it. Where one wishes to seed one of those wet sloughs or swampy places, just burn off the old grass and then in early spring sow the seed; and if the wild grass does not smother it, then the second year there will be a great field of alsike that will be just as high as any other grass. I know of no other clover that could be used in a place like the above with success.

Alsike ranks well as a honey plant. When generally grown in the surrounding country, the number of colonies can be materially increased. The coming of alsike upon the stage has almost eliminated the poor sea-

will be affected by pasturing with live stock. It has become a general practice here to mix in alsike seed when seeding red clover, and the practice is giving

sons, as there will be fields of alsike where little white clover is to be found. To be sure, there are certain seasons when alsike, even tho plentiful, has failed to secrete sufficient nectar for a surplus. But time and again it has saved the beekeeper from actual feeding, and tided him thru to the fall flow that gave plenty of stores for winter.

Delmar, Ia.

[In our July issue Mr. Coverdale explained one good way to get more honey. This month he gives another method that has helped him to increase his yields.

What Mr. Coverdale has done, others can

do. He says that it has been largely thru his own efforts that alsike has become so widely grown by the farmers in his part of the State. There is no reason why many other localities cannot be improved in the same way. As soon as farmers begin to appreciate the value of alsike, it will be sown much more extensively than at present.

From our own experience as well as that of others we know it will pay the beekeeper well to do all that he can, even to furnishing part of the seed, in order to get the facts before the farmers of his locality.—Editor.]



SOME 40 years ago there was a great exodus of people to Kansas. Glowing reports had been brought back of the enormous crops secured there.

Thousands upon thousands went. Then came the grasshoppers and the awful drouths, not to mention the tornadoes and other drawbacks. Many came back or went farther west, sadder and madder than when they left home in the East. But, as every one knows, Kansas recovered, and is now one of the leading agricultural States of the Union.

What has happened to Kansas has happened to Texas. A few years ago nearly

TEXAS AS A BEE COUNTRY

*Good and Bad Points About Texas;
Also Something About an Old-Time
Queen-Breeder Still at Work*

By E. R. Root

United States that is always dependable. There is no State in the Union where there is no chill nor dampness. I have suffered more from actual cold in some of the semi-tropical States than I ever did in the North. Why? People in the South and in the semi-tropics have learned to get along without an elaborate heating equipment. Apparently they can or do stand it. But when I get chilled thru I want

themselves to such conditions, and many left the State sick at heart and sick in body.

It is the same old story. There is no State nor locality in the



W. O. Victor looking over the markings of the bees of one of his breeding queens. Mr. Victor is one of the oldest queen-breeders in the United States. He owns and operates something like a thousand colonies of bees, a part of which are run for extracted honey, a part for pound packages, and the rest for queens.



One of Mr. Victor's out-apiaries with Mr. Victor standing in the foreground. The trees are the mesquite, which had not leaved out at the time of the editor's visit.

every one was going to Texas. It was claimed that it was to be a cure-all for all diseases; that it had a mild and equable climate, no cold nor dampness; that there were no failures; and that every one who went there made money. Unfortunately there came the long parching drouths. The newcomers did not know how to adapt

a good fire or a steam radiator, and sometimes neither is available in the South. I do not like to tell my hosts that I am cold and nearly frozen to death. I just sit and shiver; and when I am asked if I am cold, I say, with chattering teeth, "Oh, no! I am very comfortable, thank you." Even if I told the truth, those little stovepipe stoves would not warm me—at most they would "go out" before I could get warm.

There are some States where big crops of

honey are secured, and Texas is one of them; but let me make it very plain that the man who moves from his old home where he is accustomed to the climate and conditions, as well as the people, is going to meet with some disappointment, no matter where he goes. Texas is a wonderful State—the largest in the Union. In the line of agriculture it stands nearly at the top of the list. For bees and beekeeping it is one of the best in the Union. But those awful drouths! They hit the beekeeper pretty hard sometimes, and only stayers—those who have grit and cash enough to pull thru—succeed.

There are very large areas in Texas that are wild, and in good bee country, too. Mes-

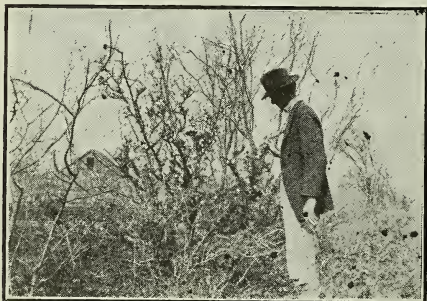


A thrifty tree of the mesquite—a fair sample of what is seen all over southern Texas. While mesquite is not the main source of honey it is an important one.

quite is found all the way from Arizona to the Mississippi River, and this is, perhaps, the most widely scattered. Then there is the huajillo and the catclaw. All three are called scrub desert trees. Where these three seem to be at their best is in Uvalde County. For the time being we will look about there.

"That Paradise of Bees."

Some 20 years ago, when I visited Uvalde, I thought it was an ideal place for keeping bees. In fact, I reported in *Gleanings* that it was a "veritable bee paradise," and so



T. D. Purdom looking at a specimen of plant.

it was, and so it continued for a few years. Then came that series of bad years when everything seemed to be parched dry. Many of the old-time beekeepers left the territory or went into something else. But now Uvalde is beginning to look as it did in the days of old, and beekeeping has taken a new start.

We will not take time to interview all the prominent beekeepers there; but there are some large ones having a thousand colonies each. For instance, there is W. O. Victor, formerly of Wharton, but now of Uvalde. He is one of the oldest queen-breeders in the United States. He has had his ups and downs, as have nearly all the rest of them. But he is still sticking to it and making good. He has apiaries scattered around in different sections in the semiarid desert. His right-hand man—one who seems to understand the business and conditions in Texas—is T. D. Purdom. In fact, he gave me quite a history of the honey plants of Texas. He is shown in Fig. 4.

While mesquite, catclaw, huajillo, and broomweed are the principal honey plants of southern Texas, cotton is the main source on the cultivated areas further north. But cotton does not yield honey on all soils.

When we speak of cotton we should bear in mind that the honey comes from the leaves and floral bracts or nectar-glands as well as from the blossoms themselves. This naturally raises the question whether cotton honey, a large part of which does not come from the flowers, should be classed as pure. I submitted samples to the United States Bureau of Chemistry, and received a report saying that the honey was practically normal, and would be accepted as a pure honey.

By the way, cotton honey varies—sometimes a little on the amber or reddish color, and at other times it is pure and white. The best cotton honey is almost a neutral sweet, tasting very much like cane-sugar syrup. In fact, it can be used for sweetening coffee and canning fruit about the same as common sugar. It ought to be fine for softening down a strong-flavored honey for bottling purposes.

Besides the cotton there is a very large list of honey plants in Texas, such as the broomweed, hackberry, arnica weed, soapbrush, whitebrush, persimmon, mountain laurel, and a long list of minor plants that are but little better than brood-boosters; but they are important because they come at a time when they enable the colonies to build up to catch the main honey flow later on.

Mountain laurel—is it poisonous? Some say it is, and others say that it is not. I am reliably informed that it sometimes kills bees, and in the case of human beings it causes an awful nausea. My advice is to play safe and not eat it. If it kills bees, move the colonies to another location.

MR. Diemer's article in the June issue of *Gleanings* prompts me to write about the "fasting" or starvation method of queen introduction. Mr.

INTRODUCING BY FASTING

The Behavior of the Queen Apparently More Important Than the Odor When Introducing

By Elmer G. Carr

Diemer stresses the need of the introduced queen's acquiring the colony odor to insure acceptance. So important does he consider this that it is mentioned thrice in the article referred to. He admits, however, that there is no need of this if a good honey flow is in evidence, and also claims ready acceptance of a queen in a colony nine days queenless, first destroying cells.

Much has been said about odors in managing bees; even Father Langstroth recommends the use of peppermint in connection with some manipulations. (See Langstroth, L. L., 1863, "The Hive and Honey Bee, reprinted by The A. I. Root Co., Medina, Ohio, 1914.)

It would be of interest to know if anyone has direct evidence that odors play any part, prominent or otherwise, in queen acceptance. Can anyone show that the behavior of the queen herself is **not** the deciding factor?

The introduction of queens both for the control of European foul brood and improvement of stock is claiming much attention, and a safe and easy plan is needed. Undoubtedly the greater part of shipped queens are introduced in the mailing cage, because in the case of the experienced apiarist this involves less labor, and for the amateur it is simpler. A 10 per cent loss of queens introduced in this manner is common, and is expected. While there may be no 100 per cent perfect plan of queen introduction, the "fasting" plan when intelligently used gives a high percentage of successful introductions under all conditions.

Simmins, in his "A Modern Bee Farm," in the 80's, gives this plan and mentions a definite time, 30 minutes, for fasting the queen. He also recommends that the queen be introduced at "dusk." In discussing this point with Mr. Buchanan of Tennessee, at the St. Louis convention in 1913, he said he did it at any time of day.

A goodly number of tests of the plan, under all conditions, has led to the belief that when the queen has been without food until she is weak from lack of nourishment and when dropped into **any** queenless colony asks for food, almost never do the bees refuse to feed her, and when they have given her food she is treated as tho they never knew another queen.

A queen direct from a nucleus of a colony where she is laying freely will "starve down" much quicker than one which has not been depositing eggs for some time. Forty-five minutes will usually suffice in the case of an actively laying queen—in fact, is

sometimes longer than necessary. A queen from the mails or one long caged may require an hour or more to become in a condition to behave her-

self when introduced.

The advantages of the fasting plan are the high percentages of successful introductions, and the queen is at once at liberty to go where she will in the hive. In a few hours, therefore, she will be depositing eggs in the colony, thus reducing to the minimum the break in egg-production in the colony. The disadvantage is the necessity for transferring the queen from the mailing cage to the fasting cage. This is also involved in Mr. Diemer's plan. It is usually recommended that this be done by opening the cage before a closed window and catching the queen as she crawls up the window pane. Many, however, experience difficulty in handling a queen with the fingers. Such persons may allow the queen to crawl up into the fasting cage as she crawls up the glass of the window.

One difficulty with the plan is that the beekeeper frequently does not have the window at the apiary. He is in the same fix as was Dr. Miller in regard to Mr. Doolittle's advice to make a bee-cellar in a hillside—he did not have the hillside.

I have no excellent plan for transferring the queen alone, safely and easily, to the fasting cage. However, there is evidence of much inventive genius among beekeepers, and it is to be hoped such will turn their attention to this subject and give us an entirely satisfactory plan for accomplishing this.

The fasting plan, in brief, is to place the queen to be introduced in a cage without food and attendants and leave her until her movements become sluggish when she is disturbed, indicating a weakening from lack of food; then place her loose on top of the frames of the queenless colony, using only such an amount of smoke as may be absolutely necessary to handle the colony and immediately closing the hive.

Simmins mentioned 45 minutes as the proper fasting period, and was using queens direct from nuclei. A longer time will probably be needed in the case of queens which have not deposited eggs for some time.

The oft recommended plan of dequeening a colony and in about four days destroying queen-cells and then introducing the queen seems to have little to recommend it except to increase the labor. A colony which has built cells appears more unwilling to accept the new queen than one requested as soon as dequeened.

New Egypt, N. J.

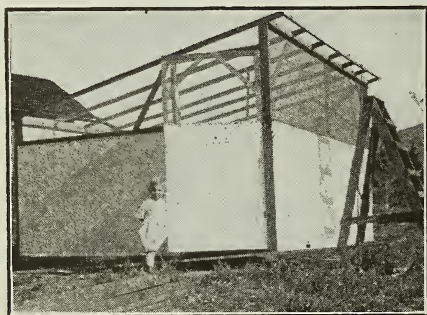


PORTABLE EXTRACTING HOUSE

Can be Put up in Thirty Minutes and Weighs but 280 Pounds

This honey-house was constructed by Charles M. Lechner of La Crescenta, Calif., and is used for field work by Arthur Innes. As a matter of fact, it serves the double purpose of extracting-house and sleeping quarters, and can be put up or taken down in 30 minutes.

The entire structure weighs about 280 pounds and is built in sections of such size



This portable extracting-house can be put up in 30 minutes.

that they may be carried on the trailer. The whole house, with the exception of the canvas roof, is shown in the picture on the auto annex ready for transportation.

This handy structure is put together with 5/16-inch bolts and is 10 x 12 feet, with a height of 7 feet in front and 5 feet in the rear. The canvas is carried up for 4 feet on the three sides, while the part above is good heavy screening. The back is canvas for its entire height of 5 feet, both screen-

ing and cloth being closely tacked to the wooden framework.

There is an over-all canvas roof, which had not yet been put on when the picture was taken. This is first caught by metal eye-lets, then made absolutely secure by a brace that fits over it and bolts at each end. The rafters are separate and are grooved to anchor securely to the crosspieces on which they rest.

The woodwork is all pine, 1 3/4 x 1 3/4 inches, except the braces, which are 1 1/2 x 1 3/4 inches. The door is 3 feet wide, which admits the extractor easily, and on the opposite side is a small door 16 x 20 inches, which is used for the handy passing in and out of the hives.

Zena B. Wales.

Los Angeles, Calif.



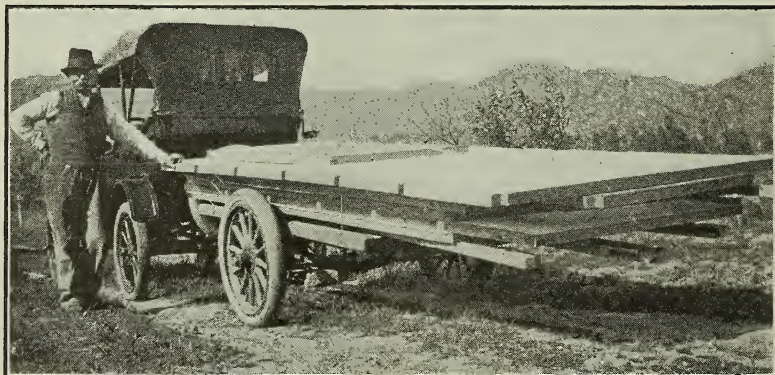
GETTING STICKY COMBS CLEANED

A Simple Platform That Precludes the Spread of Foul Brood

Dr. C. C. Miller once said: "To get extracting combs (and especially unfinished sections) emptied out without allowing the bees of more than one colony to get at them offers a problem worthy the inventive genius of some future beekeeper."

I think that problem has been solved by G. A. Deadman of Brussels, Ontario. His plan was described and illustrated in the 1915 annual report of the Beekeepers' Association of Ontario. Afterwards Mr. Deadman gave a more complete description of the plan in *Gleanings*, July 15, 1916, page 597. I have thoroly tested out this plan and would use no other. At my suggestion others have tried it and like it. I hope Dr. Miller will tell us what he thinks of it.

[In the plan to which Mr. Blaker refers, a platform is made large enough to hold a



Portable extracting-house ready for transportation.

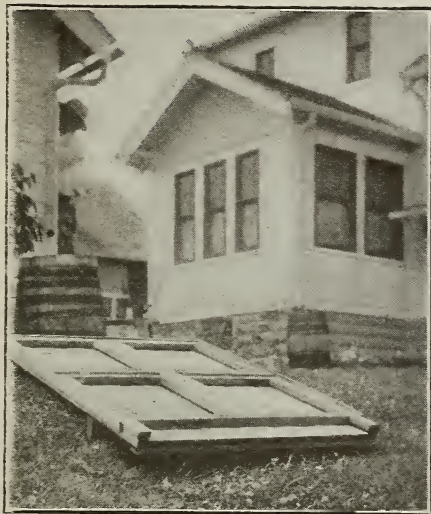
FROM THE FIELD OF EXPERIENCE

colony of bees and three to five piles of supers to be cleaned. The platform is made of matched lumber, and strips of lumber are nailed to the platform in such a way that they will support the piles of supers and will not allow a single robber bee access to the

Another advantage of this plan is that the bees will not leave cells here and there containing honey, but will thoroly clean out all the honey from the combs and take it into their hive.

Chas. D. Blaker.

Minneapolis, Minn.



The Deadman platform ready to receive the supers filled with the sticky combs that are to be cleaned.

piles, and yet by means of bee-ways beneath the strips supporting the supers will permit the bees of the colony that is to clean the super free access to all of the supers. The colony chosen for this purpose should be a strong two-story one and should have a very small entrance, since robbers are more inclined to enter when combs are being cleaned in this way. The supers may be piled as high as five supers if desired.

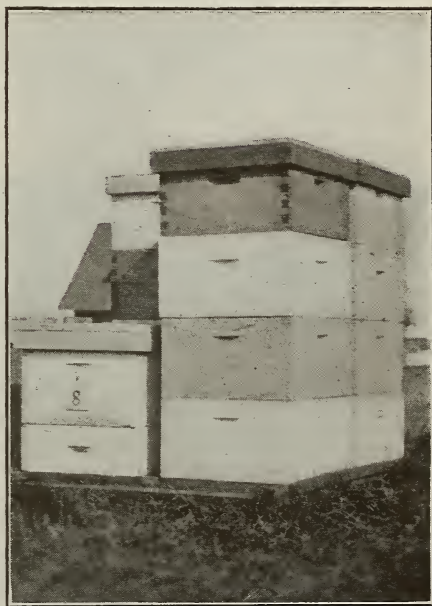
Mr. Deadman has recommended this plan not only for getting sticky extracting combs cleaned, but also for getting cleaned those sections containing only a little honey, and at the same time getting finished partly-filled sections placed above the strong colony.—Editor.]

The writer is especially interested in the plan because it helps to check the spread of American foul brood in the individual apiary. For instance, disease may be in the immediate neighborhood and one does not know to what extent his bees may have brought in infected honey. After extracting, instead of putting the wet combs back indiscriminately on the hives, he can have all of the combs cleaned up by one or two colonies, according to the size of the apiary.

DISEASE IN THE NORTHWEST

How European Foul Brood Spreads and How It Disappears

European foul brood, I am sure, is carried into the hives from diseased material removed from affected colonies. Recently I inspected 40 colonies of bees that were bought from a beekeeper 25 miles away. These were clean, strong in bees, and in fine shape; but in less than three weeks 36 of these colonies showed European foul brood—some more, some less. In one week more the rest of the colonies developed it. The thought occurred then, "Did it originate here, or was it brought with them?" A trip to the apiary where they were secured solved that question, as those not brought were as clean as could be and in perfect condition. There was only one conclusion, that the



The Deadman platform with supers on.

source of infection was here; but how and what remained unanswered. The honey flow was good; the water was running, not stagnant; there were no old empty hives ex-

FROM THE FIELD OF EXPERIENCE

posed; but there were some cases of foul brood in the apiary (these being treated), that is, young Italian queens had been introduced to work out the accepted theory of curing. Being loath to believe the newcomers got the disease by visiting, I was inclined to think that the house-cleaners in infected colonies dropped the cleanings when flying away with them, and this might have been the means of the rapid increase of the disease. The newcomers may have taken up the germs that were thus scattered. One thing was very noticeable: Some colonies, right in the same apiary, exposed to all sources were clean, healthy, and strong. These contained young Italian queens of last year's breeding and were three and four stories high. The trouble reappeared in some colonies after treatment. Also queenless colonies would not clean it up in 10 days; but the trouble did disappear when the young Italian workers got numerous enough. There were exceptions, of course, but young Italian queens of strong stock would keep it down. Shaking was useless.

I can hardly reconcile the theory as to weak colonies being the first to show the disease. Some of the strongest colonies get it, and get it badly. They certainly are not weak in strength and numbers, but it may be their bees are less resistant owing to an aging queen.

But the thoro beekeeper, who has learned to "keep bees better," will reap a harvest in spite of the disease.

E. J. Ladd.

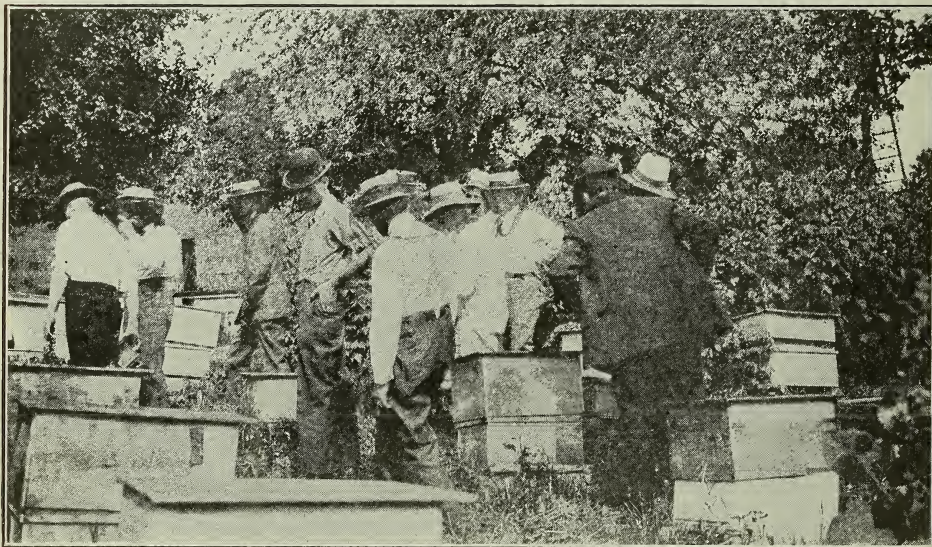
Portland, Ore.

THE DAWN

The Birth of Another Day of Toil and Sweets to Man and Bees

A day is breaking. The first rays of light are peeping above the willows by the little stream that comes out of the east. Your windows look out upon the trees, whose tender leaves are still rustling with the cool breezes of the night. You hear a small bird, that had sought the friendly shelter of a neighboring bough, twittering so faintly, as tho it too had just begun to wake. Yonder lies the great city. Its lights are still faintly flickering thru the fog that seems to hang so heavy over it.

Sleepily you slip down into the garden and out by the nodding roses to the wild-grape arbor where the blossoms are sending out their faint and sweet perfumes. As you stand there under the great grape leaves that are shining bright with dew, you look down upon another city, so white and small and still; but signs of life are already there, for at the gateway of this city in the dim light you see a guard or two who show by their indifference that the bold marauders of the night have gone their way. It is the city of the honeybee sleeping so quietly and waiting for the coming of the friendly sun. Past the drowsy guards there comes a bee, the very first one of the dawn. It comes out slowly, hesitates, and seems to look up into the sky that it may tell the temper of the coming day, and being satisfied it lifts its wings and sails away that it may be



These are field-meet days "Up North" in the good old summer time.

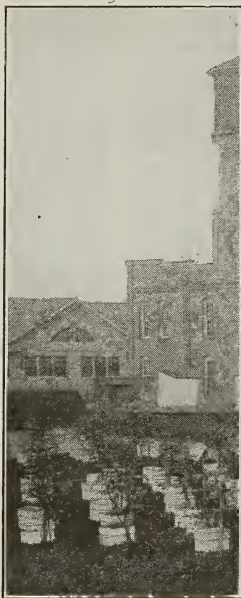
FROM THE FIELD OF EXPERIENCE

among the first to find the clover in the field beyond. Soon another comes, and then another. One seems to falter, and turning round it goes back into its home as tho it would take another nap.

Smoke is creeping straight up out of a near-by chimney, a distant whistle is heard; a dog, disturbed in his morning's slumber, is barking a disapproval; and soon you hear the rumbling of a street car.

The cobweb in front of you is trembling. It stretches up from the grape trellis to a handsome trap the old gray spider has woven in the black night. He has already seen you and is hurrying back into his sunning nest. There comes another bee, and still another, and there a funeral procession comes forth; they are carrying forth some poor companion that has perished in the night. How hastily they seem to work as tho they would have it over as soon as possible that they may be the better ready for the tasks of the day.

A man is coming up the street, his head is bent far forward as tho he was walking in his sleep. He seems but a hazy shadow, so dimly do you see him thru the morning's light. In his hand he holds a pail and he is on his way to his daily clover field in some near-by factory, perhaps.



Toil and Sweets.

And the bees—they come, more and more of them. "Wake up, you tiny creatures," you say, "the sun is almost ready to peep over yonder hill." And as it slowly rises in its golden course they seemed to wake, and more and more of them come tumbling out and fly across the valley where the sweets are waiting to be gathered.

A motor car is heard and then a wagon goes groaning over the hard stones. A distant train is coming out of the night, with its heavy load of nectar for the mighty city. The milkman rattles his bottles as he puts them at the door. The small boy on the far corner is already crying his papers as tho such news had never been before.

Now the bees are coming faster out of that dark home. Helter-skelter they come, and taking wing they soar off toward the rising sun. Some of them are already coming back, perhaps the very first that ventured out in the gray dawn, already laden with precious burdens.

The cities are awaking, one so big and one so small; the tide is flowing and on and on they come; they are the strugglers of the city and the hive.

Another day is born, a day of toil and sweets to man and bee.

Cleveland, Ohio.

J. H. Donahey.



A Quebec apiary, owned by Mr. P. Tessier of St. Casimir.



FROM THE FIELD OF EXPERIENCE



BEEKEEPERS' CONVENTIONS

A Discussion of Some of the Faults of the Present-day Sort of Meetings

As this, comparatively speaking, is the off season for beekeepers' conventions, what I am about to state need not be considered personal, and it is not intended at all to be so.

When I was a young man (now a great, great many years ago) we had beekeepers' conventions. The present-day conventions, in my estimation, are a mere shadow of what we had then. Has the glory departed? Will it come back?

I can remember great international conventions, notably, one at Detroit, Mich., at which were to be found, if I remember correctly, L. L. Langstroth, Dr. C. C. Miller, Dr. Mason, A. I. Root, Thos. G. Newman, C. P. Dadant, D. A. Jones, W. F. Clarke, S. T. Pettit, and no doubt, many others equally as worthy of mention among beekeepers.

Then arrangement was made for the newspapers to mention the industry, and that Detroit convention received a notice unique and wonderful. One of the leading papers in Detroit stated in its columns that the members of the international association in convention were a very fine body of men; that they did not go to the theatre; that the bartender at the hotel at which they made headquarters stated that not one of them had been served with a drink; and that the boy at the cigar stand stated that he had sold only one of them a cigar and that was a "five-center."

Could they say it now? I know we are creatures of habit—our environment influences us tremendously. I have often said we surely never sprang from monkeys, but we have degenerated to them. We follow custom, fashion, and "theirs not to reason why, theirs but to do and die." During the last five years people appear to think they should be allowed to smoke **anywhere**, and there are still many people who suffer when they breathe tobacco-smoke-laden atmosphere; and the grossest of all offenses is to smoke in places where people are eating. I speak of this kindly, and want to say: "Young man, you will never have any reason to regret it, if your lips never touch tobacco."

What I started out to write about is the length of convention notices. When we were officers we used to have a full program announced months before the convention was held. If there is nothing likely to be attractive, let people know it; if there is something worth while, then give them a chance to attend. I had a wave of (I trust) righteous indignation sweep over me a year or more ago when a notice was received of an important convention about a week before it

was held. I sat down and with a red-hot pen wrote a little item for Gleanings, saying that those who had charge of getting out programs and arranging the time for beekeepers' conventions appeared to be under the impression that a beekeeper was a kind of person who sat on a chair by the fire with his clothing on day and night, overcoat on a chair by his side, ready to jump up from his seat, grab his overcoat and make for the station the moment he got word to come; and, if he did not make a mistake, or miss a train, he would likely get to the meeting in time.

Why this way of doing things? Oh! There will be a thousand excuses; but, after all, there is none. Thousands of times I have said to people who are behind: "Do a thing as early as you can and then, if this, that, or the other happen, you will still be in time." Is it not true?

Then when secretaries write to people, let the response be quick. I answer nearly all my correspondence immediately; but, alas, there is little reciprocity in this respect. I have often felt deeply wounded by having no answer to kindly letters.

In this day there are many speakers sent at expense to help conventions. Why not have secretaries co-operate more, so that these can make a continuous journey and save time and money?

There is probably no fault to be found with programs. At a national convention at Detroit, I think the last held there, at my suggestion to the secretary, W. Z. Hutchinson, the program included a debate and I was later told that this part of the program was considered a pleasurable, exciting and instructive feature. The subject of such a debate should be one upon which there are strong and distinct differences, and there should be impartial judges, or the decision might even be left to the individual.

Brantford, Ont.

R. F. Holtermann.



FREQUENCY OF SUPERSEDURE

Dr. Miller Thinks His Bees Do Not Fail Once in a Hundred Times to Supersede

In July Gleanings, page 407, A. Butsch says: "The statement has been made that when bees are left to their own devices every queen is superseded before she dies. Now in my experience I have not found this true I find that the bees will allow the queen to go on laying until her fertility is practically exhausted when she will lay both drone and worker eggs in worker-cells. At this stage the bees, if they have any sense at all, surely ought to start queen-cells. In a few exceptional cases they do, but they generally allow the queen to go on until she lays nothing but drone eggs."

I plead guilty to having made the state-

FROM THE FIELD OF EXPERIENCE

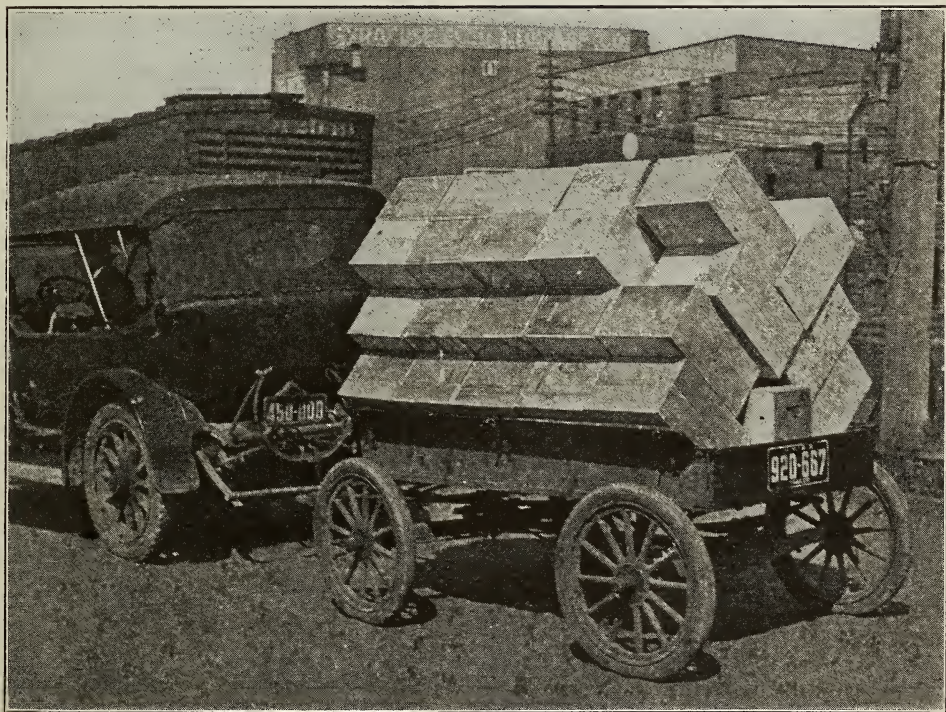
ment mentioned, and of course know that when a colony ceases to exist, whether it be blown up by dynamite, starves in winter, or dies because nothing but drone brood is left in the hive, there can be no supersedure. Perhaps I ought to have modified my statement by saying: "In the natural course of events, if a colony continues to exist, its queen is superseded before she dies." Even a statement of that kind leaves Mr. Butsch and myself very far apart in our views, and as those views are based on observation on both sides it must be that there is a great difference in the behavior of bees in the West Indies and the United States, or else in different strains of bees.

His bees only "in a few exceptional cases" rear a successor to a failing queen; my bees, I think, do not in one case in a hundred fail to rear a successor. It may be worth while to find out, if we may, what is, in general, the observation of others in this matter. Is the difference in localities, or is it in the bees? Perhaps we may be told what has been observed at Medina.

Mr. Butsch makes what will to many seem a surprising statement, when he says: "Bees as a rule will not start queen-cells as long as there is a living queen in the hive, whether she be a virgin, a laying queen, or a drone-laying queen." Surely swarming-cells could not have been in mind, and swarming-cells form a large part of all the queen-cells that are started. So far as I know, bees will not start queen-cells for swarming unless there be in the hive a living worker-laying queen. C. C. Miller.

Marengo, Ill.

[Our experience with failing queens is much the same as Dr. Miller's. In those rare instances in which the failing queen is not superseded, we have always supposed that the bees did their part and raised a young queen, but that she became accidentally lost—perhaps in mating. We understand that there is quite a loss in the mating of virgins in the West Indies. Possibly this would explain the difference in the experiences of Mr. Butsch and Dr. Miller.—Editor.]



A trailer belonging to F. A. Salisbury of Syracuse, N. Y., the wheels of which are made to track exactly with those of the auto. This plan of loading shipping cases (or hives) shows how to get on a big load without tying.

THAT idea of Wesley Foster, page 397, July Gleanings, of having a hospital yard for treating foul brood is a decidedly good thing and with us even more important with European than American foul brood, since the latter disease moves slowly while the former spreads rapidly. I have noticed that European foul brood appears in a yard first in from one to three or four hives. If these are removed promptly three or four miles, the danger of its spreading further is greatly reduced.



One of the most valuable articles in the July number of Gleanings, it seems to me, is that of Mr. Coverdale on page 403. He has learned, he says, that with a little feeding his location will support three times as many colonies and give two and one-half times as much surplus honey, or that 300 colonies would yield two and one-half times more honey than 100 colonies would without feeding. This is of immense importance in those sections where there is abundance of bloom that yields nectar freely. Two years ago we had in one yard not far from 300 colonies during clover bloom and were surprised to find that they stored honey nearly as fast as in smaller yards. As a rule, large yards will require more feeding in the fall, but the net results are in favor of the larger yard.

It is not always that we can arrange hives in a yard to suit our fancy; but that idea of A. A. Clark, page 405, of laying out a yard diamond-shaped with one corner coming to the bee-house, so the distance to travel from any part of the yard will be as direct as possible, is well worth remembering. The time spent by some beekeepers in traveling back and forth, lugging supplies and honey, can not be easily computed, but is in many cases far greater than it should be. I am pleased to notice that Mr. Clark speaks of dandelion as a valuable source of nectar. Also A. C. Ames, on page 424, says he will have several hundred pounds of surplus honey from this source. One of my neighbors, two years ago, secured some 150 pounds of dandelion honey by extracting before clover bloom. If we take into consideration the immense amount that is used in rearing brood at its time of bloom, we must conclude that this plant is one of our most valuable honey plants.

Ah, ha! Then that story about that wonderful walnut tree growing on Mr. Burbank's ground was a little overdrawn (see page 410). We can quite readily overlook the mistake, as Mrs. Puerden has given us much that is of interest in the July number of Gleanings. It was especially gratifying

to read so many nice things about Mr. Burbank after hearing many things during the past few years to discredit him. How strange it is that when a man does

a good thing there is almost always some one to discredit him or impute his success to selfish motives.

John H. Lovell does not exaggerate the value of the buttonbush as a honey plant, page 421. It grows freely on the east shore of Lake Champlain along sluggish streams that empty into the lake. Beekeepers find it a most excellent help at the close of the clover and basswood season.

The loss of bees here in Vermont was heavy, but from the time of dandelion bloom the weather has been unusually favorable. Alsike clover began yielding nectar earlier than usual; so there was only a short gap between fruit bloom and dandelion and clover. The last half of May and first half of June has brought an abundance of moisture, and the outlook for honey is very good.

R. B. Wilson says, page 424, that there is a law that forbids any one from shipping honey, bees, queens, or any other apiarian product either in or out of the State of Mississippi without a certificate of health. Now this is certainly some foul-brood law. From his statement it would seem that no beeswax can be shipped in or out of the State without a certificate. The same is true in respect to honey. It seems to me that these are rather unnecessary restrictions since, so far as known, foul brood is rarely, if ever, transmitted thru beeswax, and seldom thru section honey designed for table use.

I was surprised to read A. I. Root's estimate, on page 430, that one-half of the surplus honey in the United States might be from sweet clover. And then to think of one firm sending out an average of a carload of bottled honey a week. My mind runs back 50 years when I read with interest M. M. Baldridge's article in the American Bee Journal calling the attention of beekeepers to the value of sweet clover as a honey plant. I recall also that D. W. Quinby of New York begged beekeepers not to send any extracted honey to that market, as there was very little demand for it. And now a small town in Ohio is sending out a carload of honey a week and more than half of it sweet-clover honey. I feel like exclaiming as a certain old lady did, "Did you ever?" No, I never did expect to live to see such an advance in our chosen pursuit. If my farmer neighbors would only show more enthusiasm in sowing sweet clover as a farm crop, I should be pleased.

THE editors have been hinting that another article on honey would be timely; so, if I am repeating things which have appeared on this page before,

they must shoulder the blame. One of them has been talking about an article on the "Uses of Honey." I rather object to the plural. In my opinion there is just one use for honey and this is as a food, a delicious sweet, the only sweet refined and concentrated by nature.

Notice I am not denying that honey can be used in skin creams, etc.; but I believe there are other ingredients which can be used externally to as good advantage, leaving honey to its legitimate use as a food.

Also, please take notice, editors as well as readers, that I have no intention of ever writing about honey as a medicine. Honey is a food, not a drug. If we all paid enough attention to hygienic living, including good food, fresh air, exercise and rest, and sanitation, we would require almost no medicine.

A honey demonstrator, who has worked in cities and towns all thru the eastern part of the country, told me she had more call in the East for honey as a medicine than in any other way. That would be deplorable except for one thing—there are people who are determined to take medicine, and it is better for them to dose themselves with good food, such as honey, than to injure their digestions with harmful drugs.

Now I can just imagine some nice beekeeper saying, "Mrs. Puerden, you surely must admit that honey is a good remedy for coughs and colds." Yes, I do admit it, but let us always remember to use the word remedy in that connection and not medicine. There is a difference between the selection of the right foods to cure our bodily ills and taking medicines for the same purpose.

NOTWITHSTANDING the fact that I am including, with this article, a few recipes for the use of honey, I am not an advocate of the indiscriminate use of honey in cookery. Fine honey, whether in the form of beautiful comb, extracted, or the newer Cream of Honey, is never so fine as in its natural state. The degree of heat necessary to bake a cake injures the flavor and probably the food value of honey to a slight extent.

Now, after all this negative preface, let me say a few things about the ideal way to serve honey. The first place I should give to honey served with good, home-baked bread, fresh dairy butter, and milk, the bread preferably made of whole-wheat flour. You people who have your "staff of life," the modern baker's loaf, shipped into your town from some large baking plant, stale, flavorless, dry, under-baked, really cannot

OUR FOOD PAGE

Stancy Puerden

appreciate how good bread and honey can be. Fine honey, served with good bread, is much more satisfying and better relished by the child with nat-

ural, unperverted appetite than any cake ever made.

Here is a remark which I have heard so often that I have come to expect it when we have guests: "Homemade bread is a great treat to us. We like it better than cake in our family." And I always feel like replying, "Well, why don't you have it if you appreciate it so much?" I find it far easier to keep home-baked bread on hand than to bake cakes, and until American bakers learn to bake a better article of bread, I shall continue to bake bread for my family.

There, you think I have wandered far from my subject, don't you? Not a bit of it. I just wished to emphasize the point that honey should be properly accompanied to be appreciated.

The second place I should give to honey served with hot muffins, hot biscuits, waffles, griddle cakes, etc. An interesting writer on honey, whose name has slipped from my memory, in a recent magazine article states that old beekeepers, who really know honey, never serve it with hot breads. My mother agrees with her, and it was never served with hot foods in our home when I was a child. The managing editor of *Gleanings* also says he does not like honey on anything hot. I can't help it. Maybe it is a depraved taste, but I like the delicate aroma that arises when honey is poured over hot waffles or griddle cakes, or when a bit of it is placed on a hot biscuit. You know a great part of the sense of taste lies in the sense of smell, and a little heat, not too much, certainly does increase the fragrance of the honey.

Before the days of electric irons we used beeswax to prevent the iron from sticking to the starched clothes. A woman who used to do my ironing said she loved the odor that arose when the hot iron was rubbed over the cake of wax. It had much the same aroma that one gets from honey on hot breads.

Just at this point the beekeeper with whom I have lived for 22 years came along, read my manuscript, and said, "You are wrong on one point, Stancy, you should give the first place to honey served with hot biscuits, etc.," and he appealed to our three children who promptly and unanimously agreed with him. It would be interesting to have the opinion of all the readers of *Gleanings* on the subject. My conclusion is to eat honey with anything you please, whenever you please, wherever you please.

NOW we come to the subject of honey in cooking. A few days ago one of the editors of *Gleanings* asked me if I used honey exclusively for sweetening baked goods. No, I never did, unless it was during the war with the accompanying sugar shortage. It can be done, of course, but honey is not as convenient as sugar for much of the baking and cooking; its flavor is lost in some foods, and combined with certain flavors it is positively unpleasant to my taste. Honey should be used with common sense, and if we beekeepers advocate its indiscriminate use we are likely to prejudice people against a delicious food. For instance, honey is not at best in a delicate white cake, altho it is invaluable in fruit cakes, certain kinds of cookies and drop cakes, chocolate cakes, and all kinds of sour milk cakes, having the property of keeping them moist, rich, and fresh tasting.

Altho some people like the combination of flavors I do not believe the average person likes honey to sweeten such acid fruits of pronounced flavor as cranberries, currants, cherries, sour plums, and the like. Also, altho good fruit jellies may be made with honey, I prefer sugar myself for this reason—when making jelly with honey the necessary boiling is likely to develop a very slight caramel flavor. Please do not misunderstand; I am not saying that good jelly cannot be made with honey, with care, but to advise it for jelly making is likely to prejudice the public against it. There are certain preserves which do not need so much boiling, which are delicious made with honey.

Here are just a few of the flavors which are especially fine combined with honey,—pineapples, apricots, peaches, dried prunes, raisins, dates, figs, almond, chocolate, cinnamon and other spices. Honey seems to develop the flavor of chocolate, and both chocolate and cocoa when used as a beverage are especially fine sweetened with honey. Honey also seems to blend well with the flavors as the raisin, fig, and date by the drying process.

AS to the use of honey in canning, no special directions are needed for it. The modern so-called cold-pack method of canning requires that the sugar for sweetening be made into a syrup and poured over the fruit which is already packed in the sterilized jars, and then cooked in the canner for the required length of time. The use of honey simplifies the process, because, being already in the form of a syrup it is necessary only to dilute it with water to the taste, heat it to the boiling point, and pour over the fruit in the jars.

As to the amount the honey should be diluted with water for canning purposes, that depends upon a number of things, principally the taste of the consumers of the canned fruit. Another thing to be taken into consideration is whether the fruit is put up for pies or other use in cooking. Many housekeepers prefer fruit canned with

little or no sweetening if it is to be used in pies. It can then be sweetened to taste when the pie is baked.

Fruits in large pieces, such as peaches or pears, do not need as sweet a syrup as the smaller fruits, for the reason that there is more space between the pieces, leaving room for a larger amount of syrup. In the case of strawberries, a quart box may generally be crowded into a pint jar without crushing. This leaves very little room for syrup, and the syrup should therefore be much sweeter than in the case of large fruits to obtain the same results. This is a point which most writers on canning overlook.

A syrup in the proportion of one cup of honey to one cup of water is a good average for the large fruits, altho even less honey may be used, as fruit will keep without any sweetening at all if properly sterilized in the canning process. Two or three cups of honey to one cup of water, or an even larger proportion of honey may be used for the small fruits, crowded into the cans. A sweet syrup is also generally used for any very acid fruits.

Many writers on canning direct you to boil the syrup down. This should never be done when the syrup is made with honey, as it will injure the flavor of the honey. Add water in the proportion to suit your own taste and then heat it only long enough to make sure that it really boils.

SEVERAL years ago on this page I described an easy method of canning small fruits which retains the natural flavor to a greater degree than by any other method, and for the sake of new subscribers I am repeating it herewith. Prepare the fruit as usual by washing, picking over or hulling, if necessary; pack closely into sterilized jars, fill to overflowing with boiling honey syrup, seal tightly at once and plunge immediately into a boiler of boiling water deep enough to cover the jar, turn out the burner beneath or lift from the range, cover closely and leave until the water is cold. As an extra precaution it is well to wrap in a large towel or blanket. If you are doing a number of cans pack them all with the fruit before pouring over the boiling syrup and work rapidly to seal all the cans and immerse them in the boiling water before they have time to cool.

While I called this a method for small fruits, sliced peaches have been done successfully by this method and retained their flavor to a wonderful degree.

THE following recipes for Bran Raisin Muffins, Sultana Biscuits, Raisin Bread, Seones, and Conserve I adapted for the use of honey from recipes published in an article by C. Houston Goudiss in the *People's Magazine*. I love to combine the two natural sweets, honey and raisins.

The bread recipe is reliable and easy and may be made in the mixer without any hand-kneading. If your family is very small,

(Continued on page 503)

DOES any-body remember Mr. Allen's keg that failed to transfer itself? Well, Mr. Allen says I must add that the queen evidently went

up once or twice to deposit eggs in the super on top, but she never let herself get caught there. He slipped an excluder in once or twice, only to find no eggs upon the next examination, showing that she was in the keg below when the excluder was put in. Probably had he been able to do it often enough during the season, slipping it in and out several times, he might have caught her. But anyway her workers stored some beautiful honey in their new supers.

We know a beekeeper who had a disastrous experience this summer, in removing honey by means of an escape with no inner cover over the supers. He had never bought from the supply houses any covers other than the metal ones, but there are in the yard a few other kinds that were acquired when buying bees. Evidently some of them are of faulty construction, altho this was not discovered while the bees were in the hives right up to the roof and so able to protect the top. Fortunately under most of these old covers were laid folded sheets of newspaper or burlap when putting escapes under, but one or two supers of particularly pretty honey got skipped. The bees being trapped down thru the escape, these supers of nice sealed honey were left with about three inches at each end of the top open for robber bees. They found them, too. When the yard was reached about 10:30 the next morning, it looked as tho a swarm were taking possession. Not one ounce of honey was obtained from that colony, but instead two supers of combs were badly damaged.

This matter of putting on escapes and deciding how much honey to take off becomes more difficult and complicated when the beekeeper is caught with a lot of unsealed honey on his hands. We were among those so caught this year, having piled on everything we possessed in the shape of supers during our unusual white-clover bloom of May, only to see it come to a swift and unexpected end in mid-June. "I take everything in the hive, sealed or not, and then heat it all. No danger of fermentation then," states one producer. "All I ask of the bees is to bring in the nectar; I can't do that myself," says another. "But I can ripen it in tanks the way they do in California. What do I care whether it's sealed or not?" "I leave all unsealed stuff on the hives—I'd far rather have it there than mixed with my ripe sealed extracted," declares another. "I don't take any unless it's sealed or nearly so," insists another. Personally I lean strongly towards the sealed-

Beekkeeping as a Side Line

Grace Allen

or-nearly-so system, but when there's a great deal of unsealed on hand, it makes a difference. Locality becomes a strong factor in the matter. For in

some places the bees will finish these unsealed supers during a later flow, finally yielding them as surplus, even tho possibly not so choice as the first crop. But in other places, if left on the hives, there will still be unsealed honey scattered thru too many combs when cold weather arrives.

I said the flow stopped in mid-June. So it did around this new country yard. At home it lingered along for another ten days or two weeks, while still further down on the river road, a beekeeper assured us it would continue for still another two weeks. This difference seems to be the result of different soil conditions. The soil thruout this country yard section is very shallow, with a great deal of rock lying near the surface. Ten days of hot dry weather and the white-clover bloom had gone glimmering. Limited quantities of sweet clover flourishing around encourage me to believe that it may do particularly well here, which will compensate in part for the too early cessation of white-clover bloom. I wish we had tried our sample of the new annual white sweet clover out here instead of at home where I suspect the soil may be a bit acid. Mr. Allen sowed it hurriedly one March morning, without lime, and while by the end of June most of it was less than a foot high with no sign of bloom, a few plants were waist-high and in full bloom.

A certain young sideline friend of ours had bought some bees in a box hive. In the spring, acting under our advice, he tried letting them transfer themselves. He put a new hive with full sheets of foundation, and one or two old combs we gave him, over the old hive, closed the lower entrance, and left them there. More and more discouraged, he kept reporting no queen above. Moreover, he wanted to requeen them. So he sent off for a queen, and when it arrived, I joined him one day in mid-June to help him transfer by the old sticky cut-out-and-tie-in method. Having been warned that they would resent it, I armed myself with particularly bee-proof costume. We opened the super, scorned of the queen, and found some beautiful honey, sealed white and solid to the bottom-bar. Setting this super down on a bottom-board, on the same stand, to give the returning field bees a place to enter during the operation, we carried the old box to another side of the attractive little back yard. There we pried it gently apart, cut out the comb, tied the worth-while brood into empty frames, getting four such combs of brood altogether. A little good honey, in comb too tough and old to be edible, was put

into a pan to be strained for the table, while the less desirable honey was put into another pan for feeding back. We found the queen without any trouble and disposed of her. Then from the super, now to be the brood-chamber, we took away all but four combs of the honey, two on each side of the hive, put in two full sheets of foundation, pushing it over against the honey on each side, and hung our four combs of brood in the center. We put in the new queen, in her mailing cage, put on a queen-excluder, set the old cut-out honey in an empty super above, and the job was done. The six combs of honey removed from the super were divided between a nucleus he had and a swarm he had caught. There was no excitement, no robbing, no angry bees, no trouble beyond a few sticky garments, scarcely a sting. The bees hummed quietly around thruout. The next week he reported strings being dragged out of the entrance and, looking in, found his new queen laying. Of course I was as pleased over results as he was, for transferring is one phase of bee-keeping I had indulged myself in dodging until this season.

Is there such a thing as a commonplace swarm? Surely not in a sideline's yard. Always there is something of absorbing interest about them, something particularly exciting, or thrilly, or funny. One Sunday in June (it had to be Sunday because of Mr. Allen's being in an office other days) we drove out into the country to bring in three swarms that a friend had hived for us. Other beekeeping friends met us at the yard on our return, for a picnic dinner under the trees near the yard. Just before dinner, as tho to add a true apiarian flavor to the event, a swarm came out. Mr. Allen went over the fence into the orchard where they clustered, and coaxed them into the swarm-catcher. At the same time, unusual tho it is for swarming bees to sting much, he was stung many times on his bared arms. Meantime I opened the hive.

Fourteen days before, we had found some fine cells in a good colony. Interested to see what success we would have by such a short-cut method of requeening, we de-queened six poor colonies, giving each one a comb with a sealed cell, instead of giving the cell in a cell-protector as we should have done. Personal matters and a few days of rain kept me from examining them later. This Sunday a swarm came from one of these colonies. As might have been expected, we found they had torn down the cell given them, and built a multitude of their own. As fast as these cells were cut that Sunday swarming morning, out jumped the young queens—on the combs, on the ground where the torn-out cells were dropped, anywhere and everywhere, it seemed, till we took more care to kill them in the cells. The swarm was dumped down on a white-painted metal cover in front of the entrance and among the bees marching towards the hive were three queens. Two of them we killed,

leaving one that we thought looked larger and more likely mated. While that colony has now a young queen, the stock has not been improved, as this is the daughter of the undesirable one originally disposed of.

A day or two later, when I was alone at the yard, I discovered a large swarm already clustered on a low tree in the orchard. Over the fence with the swarm-catcher I went, but the swarm was so large and draped along so much of the branch that only a small part of it was secured the first time. On the second trial, I gave the branch the usual vigorous jerk and felt the usual peppering of bees strike my hat. This time, tho, the queen must have struck the hat and stayed there. Heavier and heavier it grew, closer and lower it sank on my head, and soon bees like a dark wave began spreading down over my veil. It happened to be a wire veil that morning and carried its unusual weight easily. I must have been an absurd sort of vision climbing a wire fence with my head held so stiff and proud under its weight of live bees. Did I shake them off promptly before a hive? I did not. As any woman would, I went straight to the little mirror in the honey-house (imagine any sort of a house without a mirror!) to get the effect. It was really very becoming. You couldn't see the face at all.

But one swarm made me as nearly miserable as probably any swarm could. It was when I came dashing into the yard the morning of the second registration day for the summer term at Peabody College to get a comb of bees for an observation hive, which I insisted on putting on my table to rival the stuffed owl on the birdman's table! My time was limited; in fact, I didn't have any time at all. And there was a swarm coming out just as I came in! It was fine and big, a thing of brave adventurous wings, that filled me with delight as it hung there weaving its mysterious patterns in the sunshine of that June morning. But I had no time for swarms. Besides, it was hot, that old-fashioned kind of hot, you know; and I was supposed to look more or less cool and dignified in a few minutes at Peabody. The swarm settled on a tall tree, on a high branch. By grasping the swarm-catcher near the end of the pole, and holding it about as high as my head, and bumping it against the lower side of the bough, and doing it several times, and executing each time varied and rapid unknown dancing steps to keep the thing balanced, and perspiring quarts, I got it. I also got my observation hive and whirled back to school. But the little glass-walled comb got one bump too many on the way back, and the next morning I showed my new class a dead queen. It turned out rather well, tho, for the wee colony built three queen-cells and we were able to watch the whole process, including the destruction of two cells, and now we have a young laying queen. Not one to boast of, to be sure, but able to hold her own in a one-comb observation hive.



FROM NORTH, EAST, WEST AND SOUTH



In Southern California.—This has been one of the coolest Junes ever known. It has surely been a boon to the southern California beekeeper, and here's hoping that July will be as favorable for the flow of nectar.

The orange honey crop for 1920 has been harvested and, generally speaking, it has been very satisfactory. In some cases beekeepers were in a hurry to move to the sages, and it happened that the neighbor who kept his bees on the oranges a few weeks longer, got much the best crop. A rank second growth on the black sage in most sections gave a big flow. The purple sage yielded well in only a few sections. Generally speaking, it proved to be a great disappointment. The white sage has been blooming for a month and in many places will continue well thru the month of July. The flow has not been at all abundant and in certain localities is reported as not yielding any honey. With us it has proved to be uncertain from year to year and this year has been only fair. The wild buckwheat is secreting nectar quite freely. In places where moisture is sufficient this shrub continues to furnish some honey until the frost comes.

The Imperial Valley is getting its normal crop. They never have had a failure there, and it is only a question of a larger or smaller crop from year to year.

Some large apiarists in southern California figured on 100 per cent increase and an orange-honey crop. In a few cases, according to the reports, they succeeded.

We hear that the Orange County beemen are getting the best crop in 40 years. There are perhaps two or three years in the last 40 years that about equal this year for average production, but the high price of honey will make this, financially, the banner year during that period. Old-time apiarists say that 1884 and 1895 were great years for honey-making. The secretary of the Orange County Beekeepers' Club says that he believes that the county this year will produce 150 tons of honey. The mountains are still covered with bloom, and the bees are working to their full capacity. Honey is bringing a good price. The beekeepers are retailing it at from 22 to 25c per pound, and the stores are selling it for from 30 to 33c per pound.

Buyers have been around from time to time but they are not as plentiful as before the Exchange was organized. They are ready to buy if they can get the honey a few cents below the market price. Before the honey was ready for market, they talked about 20 and 21c; but now they give us the old "dope" of a lower market price, a big crop, etc. It has gotten to that stage where the beekeeper is better informed than he

was a few years ago, and he is much more able to look out for his rights.

The California Honey Producers' Co-operative Exchange now advances 60 per cent of the market price or the price that a certain grade of honey is selling for at the time of its delivery to the warehouse. Additional advances are made from time to time as the pool in which the honey has been placed is sold. When the honey is all sold, the final adjustment is made and the balance remitted to the beekeeper. Many beekeepers object to the "long wait for their money," as they call it. It is an innovation in the way of selling our honey, and the writer is frank in saying that he did not like it at first. But the more it is thought over and its workings observed, the more he is convinced that it is a good thing for the great majority of honey-producers.

Heretofore Mr. Buyer came along and said, "Well, how is the honey; Mr. Jones?" "Oh, I have a few tons." "Want to sell it?" "Yes," says Mr. Jones, "I need a little money and would be glad to sell it." "All right," says Mr. Buyer, "I was out this way and just thought I'd call and see you. The market is a little weaker, but we have an order for a car and will place one if we can get it at the right price. I can pay you—," naming about what we now get as the 60 per cent advance in the Exchange. "Well, that is pretty cheap, but I want to get rid of my honey and you can have it." The money is practically all spent in a few weeks and then—well, there's a wait until next year. In the Exchange we get our money from time to time, over a period of several months or, when the wax is included, thruout the year. In this way we are never "broke," as the saying goes. The fellow outside, by standing under our umbrella, will sometimes get more for his honey and will not share in the expense. But every Exchange in California has proved the salvation of the industry it represents.

The county ordinance plan of making laws or ordinances for the moving or shipping in of bees is getting to be a nuisance in California. One beekeeper, who had his apiary prepared and ready to ship, at a considerable expense of time and money, found at the eleventh hour that the supervisors of the county into which he expected to move had passed an ordinance prohibiting the moving in of bees except in combless packages. Now it seems to me that the State should have laws strict enough to protect each county, and yet liberal enough so that the honey crop of the State can be harvested to the best advantage. This should be done irrespective of the fact that a county line separates a location on which an early honey flow is the only one, and by moving a few miles a beekeeper can take advantage of the probability of two or three different sources



FROM NORTH, EAST, WEST AND SOUTH



of honey flow. The general schedule for the gathering of honey in southern California is: orange and mesquite in March and April; sages and wild buckwheat in May and June; sweet clover, alfalfa and lima beans in July and August; and often all of them within a radius of 75 or 100 miles—but there are county lines between in most cases. Let us get together and have State laws that protect from disease by contamination, but are flexible enough so that the beekeeper who has his tens of thousands invested in the business can carry on his chosen pursuit unhampered by these petty county ordinances. Corona, Calif. L. L. Andrews.

* * *

In Oregon.—The weather is very warm and both white and alsike clovers are beginning to dry up and honey to thicken; but we have had a wonderful flow from these sources, and its quality is of the best.

My own colonies, mostly in 13-frame hives, are from three to five stories high. These are not easy to handle and one needs a good backbone to lift them bodily. I am planning now to move by auto truck in about 10 days down the Columbia River about 100 miles into one of the fireweed districts where thousands of acres await the bees. According to those who succeed annually in securing a fine crop, it requires about six full-depth supers for each colony, as fireweed honey when flooding is thin and not ripe enough to seal or cap for some time after gathering. Beekeepers always report piles of supers full of uncapped fireweed honey before any is ripe, but gathering goes merrily on, if combs enough are at hand to take care of the crop.

Here's a new one to me: An Idaho beekeeper reports some of the big men this year have crippled the queens intentionally in order to bring about superseding conditions. The method employed was to clip a leg or two from her majesty. It seems pretty radical, but the end may justify the means. At any rate, the report was that it apparently was a success; that superseding did take place, and so far the young mothers of their own raising had not swarmed out. I will prefer to await further developments, however, before adopting it,—wont you? [This is not a new trick, at all, and is just as cruel as ever.—Editor.]

Portland, Ore.

E. J. Ladd.

* * *

In Texas.—The spring honey crop is harvested. In spite of cold, heat, wet, and dry, the yield has been above normal. The huajillo (wahea) flow is reported to be the best since 1914, and the horsemint has been much prolonged because of the rains. As usual, much of the horsemint honey has been extracted and placed on the market in its unrefined condition. As this half-done honey "gasses" it is a nuisance

to the honey dealer. Horsemint honey should be left on the hive until midsummer. Whether or not it comes, the beekeepers of the southwest are preparing for a big mesquite flow.

The beekeepers of Webb County were called together Saturday, June 19, by County Agent Mally. After a brief discussion of the advantages of a beekeepers' association, such an organization was effected, with Ambrose Johnson as president and G. R. Shiner as secretary. Every stand of bees owned in the county was represented either by owner or owner's proxy. This is one of the few associations that is taking advantage of the special discount offered by most dealers on collective orders. They also plan to ship combless packages, one operator doing the work and shipping the bees of all the members. The honey flow of the southern part of this county is large and persistent. Huajillo is a very common plant and rarely fails to yield. In the irrigated field along the river alfalfa blooms almost the entire year.

The summer Short Course of A. & M. College will be given August 2-6. Professor S. W. Bilsing will have charge of the work in beekeeping. Lectures and demonstrations will be given. The apiaries of the College and Experiment Station can be visited by those interested. Professor Bilsing will be assisted in this work by Dr. Tanquary, State Entomologist, C. S. Rude, State Apiary Inspector, and others.

During the Farmers' Congress, which will be held at Texas A. & M. College, August 9, 10, and 11, the educational section of the Texas Honey Producers' Association will hold its annual meeting. Besides the regular business, the following are some of the papers that will be given: "Report of Delegate to National Conference," W. C. Collier, Goliad; "Interstate Beekeeping," W. O. Victor, Uvalde; "Beekeeping Literature," Louis H. Scholl, New Braunfels, Texas; "The Status of the Apiary Inspection Work," Dr. M. C. Tanquary, State Entomologist, College Station; "The State Experimental Apiary," J. N. Mayes, Dilley; "The Course in Beekeeping at A. & M. College," S. W. Bilsing, College Station, Texas; "Side Line Beekeeping," Ambrose Johnson, Laredo; "The Combless Package Bee Business," E. B. Ault, Calallen; "Economic Aspects of Apiculture," R. R. Reppert, Extension Entomologist, College Station; "Out-apiary Systems and Management," Arthur S. Sternenberg, Lockhart.

Thru the South and especially in Texas the cowpea gives a very marked honey flow. The nectar is obtained from extra nectaries located at the bases of the flowers and leaves. The secretion is very early in the morning. The honey is mild and when pure is dark amber. The cowpea is one of the crops that



FROM NORTH, EAST, WEST AND SOUTH



it will pay any beekeeper to plant, since to its value as a soil builder and a forage crop must be added its proportion of the honey crop. Many farmers have not raised this crop extensively because of the ravages of the cowpea weevil. The Texas Agricultural Experiment Station, College Station, Texas, has just issued a bulletin on this insect and its control. It is by F. B. Paddock and H. J. Reinhard. The junior author has made a three-year study of this weevil. A copy of this bulletin, No. 256, can be obtained by writing to the director of the above station. College Station, Tex. H. B. Parks.

* * *

In Ontario. — Last month I stated that we were having unusually dry weather here in Ontario. It is said that one extreme follows another, and this certainly seems to be the case so far as weather is concerned, for two weeks ago from this date (July 9) rain came and it has rained nearly every day since.

Alsike clover, altho in abundance around us, yielded very little, and reports from over the Province indicate that this condition is quite general. Up in Simcoe County, where we have two yards, alsike has yielded heavily, and just why the difference between there and here is hard to understand, as conditions seem quite similar as to moisture, quantity of clover available, etc. In the home district the yield from alsike was practically nothing; but at present we are having a very heavy flow, so heavy that in the last six days the bees could work six hours a day. This flow is from sweet clover, which is found in large fields around us for the first time in our experience. Talk of sweet clover being a slow yielder of nectar! Just at present it reminds one of basswood at its best; but, as stated, we have had little fair weather since it came into bloom. However, it will bloom into August; so we should have some surplus yet, if the clover keeps in the same humor that it is in now. Basswood, wherever it is in quantities to amount to anything, is looking the best for years, and reports from all correspondents say that prospects are good for this very uncertain yielder. If sweet clover continues to be grown for seed purposes here in Ontario, it will mean a big change for many beekeepers. It follows after alsike is past its best and means a continued flow right into August. For the first time since buckwheat has been grown here in our section, the large fields, coming on fast, are not viewed with any too much satisfaction. Undoubtedly the buckwheat will come into bloom while sweet clover is at its best, and so the honey may be discolored. However, beekeepers will be thankful for what they get, even if some

of the honey gets flavored with buckwheat and has to go for less than the white honey would bring.

This year at three widely separated yards we have three cases of paralysis, Isle of Wight Disease, or other ailment corresponding to the usual diagnosis of the foregoing maladies. The best colony at the home yard, headed by a fine Italian queen, was first noticed about four weeks ago as having something wrong with it. Large numbers of bees would be seen around the entrance with wings all a-quiver and soon falling in front of the hive to die. Contrary to the way the bees act in the so-called disappearing disease, when the bees rush thru the grass for some distance from the hives, ultimately dying in piles in depressions in the ground, the bees in this case rarely get over a foot from the hive entrance, and the dead soon pile up so that the stench is very disagreeable. On opening the hive, hundreds of bees are noted with quivering wings, and many have bodies distended. If opened, a pale yellow fluid is in evidence, and it is in large quantities considering the size of the bees. The brood was always normal till the old bees got too few to attend to it, and the queen was an extra-good one, keeping the frames solid with brood. This colony is just about at its last, and I notice a few bees in the next colony to the sick one, showing some ailing signs now. Another case is at a yard four miles away, and the third at Binbrook apiary, 80 miles from here. All are identical as to symptoms. Is anything known to the fraternity to counteract or cure such a malady? and, again, is this the genuine Isle of Wight disease?

As already intimated, it looks like a light crop of clover honey in Ontario, except where sweet clover is grown; but, of course, such localities are the exception rather than the rule, altho if the price of seed keeps up, we may have to reverse that ruling in the near future. Basswood may help out, but it is a fickle yielder here in Ontario. All this bears directly on the matter of prices for honey, and so far as I can learn there is nobody who seems to have a definite idea as to what honey will sell at. Sugar has again advanced and is selling in a wholesale way at \$21.21 in Toronto at present, and is, I believe, hard to get in quantity lots. Certainly it does not look as if honey will be cheaper than last year, and, if the crop is light, it may go a good deal higher. Local demand is already fair; but we have not extracted any, as the weather has been wet continuously for about two weeks, and honey is not quite in shape.

Markham, Ont.

J. L. Byer.

HEADS OF GRAIN FROM DIFFERENT FIELDS

My Experience With Aluminum Combs.

I do not feel that I know a great deal about the aluminum combs, as I used them only last season when I had only the one set of ten combs. It was a very poor season to try them, as the honey flows were very scant here except the fall flow, and then the bee force was much below what it should have been at this time of the season. In a fairly populous colony during the fall flow I had one aluminum comb that was filled solid with honey and completely capped. Another of these combs in the early summer was put with a new swarm and this colony filled it solid with brood over and over; these two combs were in the hives with wax combs and the bees seemed to take to them as well as to the wax combs.

But I had other colonies I did not succeed in getting to use these combs, altho it may have been a lack of bee force and not enough nectar coming in. I had one colony of which the queen seemed to accept the combs all right, but the bees did not. One day I would find eggs in the cells; then I would look, thinking to find brood pretty well advanced, but would find nothing save the empty cells. The eggs would be removed. Another little experience I had with the aluminum comb was this. I had a colony that stood out in the sun, without any protection in the way of shade, and in this hive I had an aluminum comb well filled with brood. The exces-

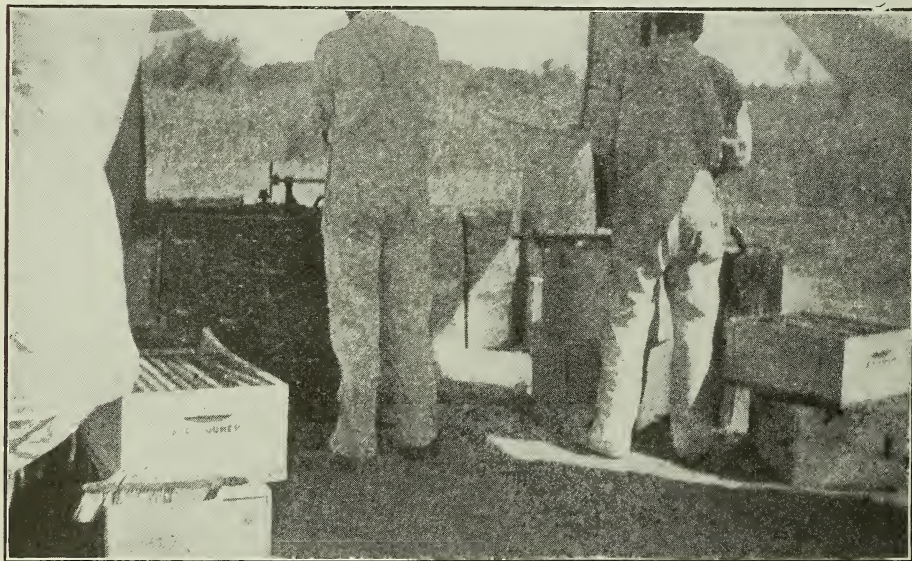
sive heat killed the brood except what was in the wax combs. I then took the comb to a hive that had shade, and no brood died after that. Of course, if the hive in the sun had been protected as it should have been, I do not think any of the brood would have died.

I wish to give the combs another trial this year, making an impartial test with the wax combs.

E. S. McElhanev.
Mt. Vernon, Ind.

Lusher's Latest Extracting-Tent.

In Gleanings for July, 1919, page 422, I gave a picture of an extracting-tent in the midst of a 400-colony apiary belonging to A. E. Lusher of Pasadena, Calif. I now have pleasure in presenting two views of a new and modified bee-tent which he at present uses. Unlike most beekeepers of California he does not make use of an extracting wagon nor a permanent building for extracting at each yard, but uses, rather, a portable outfit made up of canvas and mosquito netting — something that he can fold up in a small compass, load it on the wagon with his extracting-outfit, erect it on arrival at the outyard, and then begin operations. Mr. Lusher is known as one of the most extensive honey-producers of sage and orange honey in California. The last I knew he had about 1,800 colonies. He is one of the beekeepers in that State who



Interior of the portable extracting-tent. The Lusher boys use portable extracting outfits, using hand power only.

HEADS OF GRAIN FROM DIFFERENT FIELDS

understand California conditions and are able to make the bees pay. E. R. Root.

Too Early Orders for Bees and Queens.

In reference to your editorial on "Too Early Orders," page 329, June Gleanings, I value nuclei and pound lots of bees much more highly at the beginning of fruit bloom than I do at the close. In our section of the country it is not a bit more likely to rain during early fruit bloom than later, and receiving the bees early makes a very great difference in the strength of the colony when the clover flow begins. Moreover, if a breeder agrees to do a thing and does not do it, he is the man who should make good the loss. Suppose I buy a two- or three-frame nucleus with a young queen in each for delivery May 1, and that I get them 15 or 20 days late. I have lost the use of that queen for laying every day and at a time when every bee would have been of value to me for the clover flow. The shipper knows this and knows that I did not get the value agreed upon. Therefore, he should seek to make it good. It might be added that generally the stock he ships is not worth, at the point of shipping, what it was at the time he agreed to ship it, but with this the purchaser has nothing to do.

I am afraid that too often the advertiser knows that the chances are he will not be able to carry out his agreement. I will give you an experience of mine. I purchased 50 two-pound lots to be sent by a certain date. They were sent. Owing to a shortage of food, about one-half of them were dead. I wrote to the shipper and he, like a man and without a murmur, replaced those that died in transit. The second lot was not very much better, but I admired

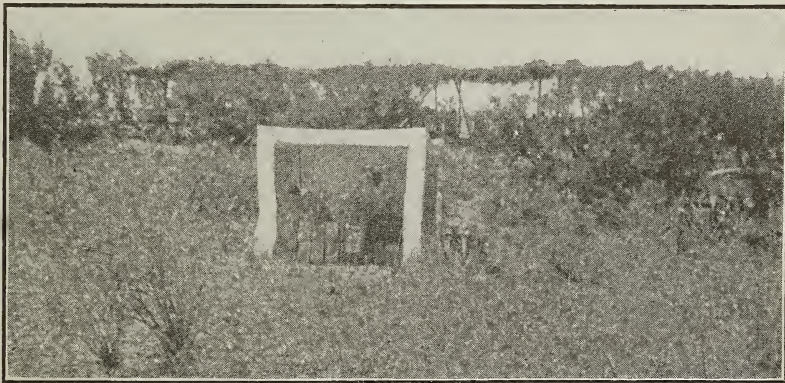
the manly and fair way in which the shipper had acted and made no more demands and said no more to him. Justice has a clean-cut live self-interest and often blinds us to what is just, but it should not do so.

I would buy bees in nuclei at the beginning of fruit bloom, but would not want them at all when fruit bloom is over, at a time when there is robbing, and when, even aside from this objection, I could not expect them to do more than build up into a full colony without sufficient winter stores.

Brantford, Ont. R. F. Holtermann.

A Plea for the Subduing Cloth.

I do not think the subduing cloth gets its fair share of attention on this continent. I suppose it is just a matter of habit, depending on how one was brought up. Personally I like to use both smoke and the subduing cloth. But, if I had to choose between the two, I think I would take the carbolic cloth (lysol cloth it generally is now, as carbolic is so expensive). The little nickel-plated box that shaving soap is sold in, is the ideal thing to keep the cloth in, and the cloth should be cheese-cloth. If you keep two cloths, each in its box, then you will always have a damp one to use. When they dry up, as they do very quickly in hot weather, a little water is all that is necessary; so one doesn't have to carry about lysol to dampen the cloth. Suppose you wish to go thru the brood-chamber of a hive that has a super on, and you are a little afraid of the bees as they are cross hybrids. Pry up the corners of the super just enough to put matches across the corners, with each end projecting. Then shake out your cloth and pass the corner of it under the super just inside the match. Do the same at the other



Portable extracting-tent made up of mosquito netting and canvas as used by A. E. Lusher. Mr. Lusher operates some 1,800 colonies. Notice apiary in the background with a grass roof shed over it.

HEADS OF GRAIN FROM DIFFERENT FIELDS

side, or you can wedge it farther back while you get the cloth entered, putting the match at the corner afterwards. Now you can pull your cloth slowly thru the crack. If you meet an obstruction such as a little brace comb, gently saw the cloth from side to side. When it is entirely thru leave it a minute or so. Then you can safely lift off the super and set it down without crushing any bees, as they will all have been driven up. Now you can fold back the cloth and examine the brood-frame. If the bees are angry, leave the cloth on and open up the frames stuck together, down thru the cloth, as it is this jarring that often causes the rushing out and stinging. Blowing down thru the cloth is also a great help. If they are really wicked, be sure to have the second cloth handy. The strength of the solution is supposed to be one to ten, but it need not be accurate. By no means am I recommending anyone to discard their smoker. But for those who have not got one handy when asked to look at a hive, the foregoing is a very good method.

North Lonsdale, B. C. Will H. Gray.

Two Queens in One Cell On June 15 I was preparing to transfer some larvae for queen-raising, and when searching for cells from which to secure royal jelly I was surprised to find a queen-cell about two inches long but not over size in diameter. I removed the sealed larva and jelly until I found an unoccupied space of about $\frac{1}{2}$ inch, then more jelly. After dipping out part of this upper jelly I found another larva, making two in one cell. Did you ever meet with a similar case? As I

was not expecting to find the second larva, I did not notice it until part of the jelly had been removed; so I am uncertain as to whether the larva was in its proper position or not. It was up in the top of the cell when noticed, but it may have been pushed there in removing the royal jelly.

Livia, Ky.

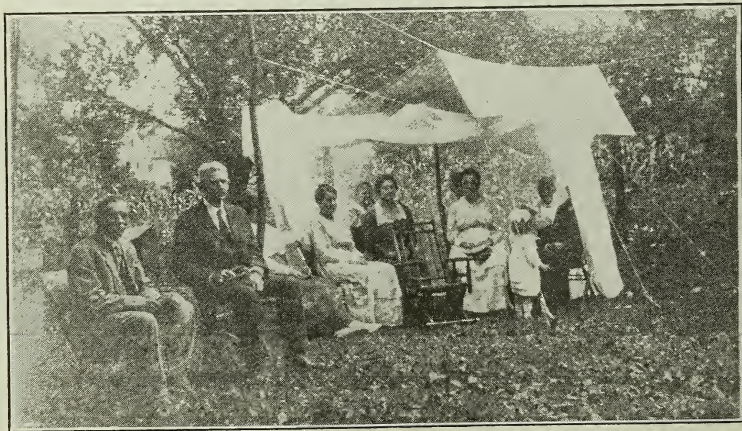
Hugh L. Lynn.

(Last week some of our queen-cells were sealed when the larvae had just hatched, but we have never known of a case such as you mention.—Editor.)

Another Way to Remove Pollen.

It may be possible that Dr. Miller's, J. E. Crane's or Mr. Alexander's method of removing pollen from combs will work, but I have my doubts. During the season of 1899 I moved from the alfalfa to the Arizona clover district on the west side of the San Joaquin Valley. Then came a flow of nectar and pollen also. In less than two weeks my brood-combs were almost filled with pollen. I removed them to the supers and then to the extractor, where all the honey was removed. I then placed them in water for about 15 or 16 hours, when they were removed, given a good shaking, and allowed to dry. The water caused the pollen to swell, and the drying caused it to shrink, after which I gave them another shaking, when most of the pollen fell out. They were then placed in the brood-nest, where the bees removed the remainder, and the queen filled the combs with eggs.

During part of the season I was short on combs and did not dry them, but placed them in the brood-nest wet and obtained just as



A summer field-meet idea, along the lines of "safety first," was worked out by the Herkimer County (N. Y.) Beekeepers' Association last summer. At one of its large meetings a mosquito-netting tent was rigged up for the benefit of the visitors who didn't give their fullest confidence to the amiable intentions of the bees.

HEADS OF GRAIN FROM DIFFERENT FIELDS

good results. I would not advise using them wet except during hot weather and during a good flow of nectar.

J. T. Dunn.

San Jose, Calif.

A Pioneer Bee-keeper of Colorado.

This apiary of W. H. Bartleson, whose home is in Colorado Springs, Colo., is located in the beautiful Arkansas River Valley near Olney Springs, Colo., where alfalfa and apples grow to perfection.

Mr. Bartleson's name is worthy of mention among the pioneer beekeepers of Colorado, as he has done much toward the advancement of beekeeping in that State. When in his employ, I learned that Mr. Bartleson has had much to contend with, foul brood, hail storms, droughts, Mexican bandits, and poison from spraying trees.

In the spring of 1879 he had rheumatism so badly he could not lift his left hand to his mouth. A doctor told him that bee-stings might help him; so he procured some bees, and holding them against his wrist, permitted them to sting him each day. In less than a month his rheumatism, he says, was all gone, and he was an interested student of bees.

For about the next seven years he cared for from 20 to 200 colonies. He then sold out, but 10 years later, while working in the Santa Fe shops, he was again attracted to bees. He rented 80 colonies of bees, taking

care of them at night after the day's work at the shop was done. Seven years later he left the shops and gave his time to caring for the bees. Since then, as previously stated there has been much to contend with. It seemed bad enough when Mexican bandits willfully destroyed 75 colonies, but foul brood was still worse. When it first struck his apiaries it killed a hundred colonies and a hundred more were affected. Altho he manages to keep control of it, still, after 10 years of struggle, there are each year some colonies affected. He shakes the affected colonies upon full sheets of foundation and boils the hives and frames clean, then re-boils them in lye water. During the five years since he established his hospital apiary, the disease has given less trouble.

During his entire 40 years of experience with bees his number of colonies has varied from 137 to over 500 and his crop from no pounds to about 36,000 pounds.

Cambridge, O.

K. C. Smith.

Suggestions Concerning the Code.

In the February issue of *Gleanings* under "Code for the Sale of Queens and Bees" I notice that another and myself were the only two to make objection to the foul-brood clause in the code. You further state that nearly all signed the agreement. I never had the final code submitted to me for signature, or I should have signed it. I do not want you to think that



An apiary of W. H. Bartleson, who has been a beekeeper in Colorado for forty years, and has had some trying experiences.

HEADS OF GRAIN FROM DIFFERENT FIELDS

because I offered objections, that I was refusing to sign. I most heartily agree with anything that will make for better service in any respect. The code as submitted to me would compel a man to go out of the queen business if he found a few cells of American foul brood. The question I raised was, "Would he do it?" I don't think he would. The latest "reservation" adopted would compel him to advertise that he had disease in his yard. Will he do that? In the rush season when the queen-breeder is working almost night and day and is so busy that he hardly has time to acknowledge orders, will he take time to write the customer that he has foul brood? I rather think not. Now, as we are agreeing to do certain things, let's have a check on each other to see that it is done. Here is a scheme that I think will work. When submitting ads to Gleanings, let those ads be accompanied with a health certificate from the state inspector. If the breeder cannot furnish this, he should state which disease his colonies have so that after the ad can be printed "American" or "European" or both as the case warrants. A new certificate should be furnished each year. I am enclosing my latest certificate and will send another as soon as the inspector can get to me in the spring. I paste one of these on all shipments I make. Anyway, I am for the Code for Queen-breeders, either with or without "reservations." Jay Smith.

Vincennes, Ind.

The American Honey Producers' League.

While the new national association, the American Honey Producers' League, is an organization of beekeepers, for beekeepers, and by the beekeepers, it must not be assumed that it will be antagonistic to any dealer or manufacturer who is willing to co-operate in bringing about better beekeeping and marketing conditions. However, it is well to be on our guard against any propaganda issued for the purpose of spreading dissension in our ranks. That such propaganda is being sent forth by one or more individuals, working ostensibly in the interests of beekeepers, but, it is believed, really for the advancement of outside interests, is a fact which should not pass by unnoticed. Statements that the League is "impracticable," "visionary," and "illegal," together with prophecies of failure, should be considered carefully with respect to their source and the reasons back of it all. It is quite certain that it does not originate with bona fide beekeepers who understand the nature and purposes of the League.

Beekeeping, it seems, is about the only important industry which remains yet un-

organized, and it is evident that the time is now opportune for a national organization of actual producers. The fact that the meeting at Kansas City was attended by delegates from 25 or more State and regional associations, representing more than half of the commercial beemen of the United States, that the utmost harmony prevailed, and that the action of this meeting was unanimously endorsed at the Buffalo meeting, are proofs that there is a demand for an effective organization.

Let us understand fully that it is not an object of the League to form a nation-wide selling agency, as claimed by its detractors in spite of repeated denials, but its purpose is to assist all member associations in whatever activities will benefit the membership and the industry in general. Read again the objects as set forth in the first League bulletin: Better distribution, legal aid, uniform equipment, beneficial legislation, a secretary not three days but every day in the year, crop reports, advertising. We can not afford to turn these down. The League will be what the beemen make it. If the constitution is defective, it can be amended. If the officers do not properly represent us, we can elect others. There is nothing gained by staying out and criticising those who are laboring to improve existing conditions. The fellow who stands back and prophesies failure is not a friend of progress, and for us to give ear to false criticism and propaganda of interested parties is not the part of wisdom. Of course, the League, in order to succeed, must have the moral and financial support of the beekeepers, for without this it will be powerless to carry on its work. Let us get in line for the League, for now is the opportunity of a lifetime to put the industry on its feet.

Valparaiso, Ind.

E. S. Miller.

A Veil That Keeps Bees Out.



A beginner who says this veil keeps the bees out.

I have a nice start, 11 colonies all in standard hives, with wired frames. The bees in the packed hives were 75 per cent stronger in the spring than those in the ones unpacked. The veil I use is made of galvanized-wire screen, the top being covered with cloth. It also has armholes, with rubber bands at the bottoms of the sleeves and around the waist. This is a good arrangement for shutting the bees out.

C. E. Killion.

Diamond, Ind.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Steaming Foul Brood Frames.

My idea of steaming foul-brood frames might be of interest to your readers. I noticed in one of the bee papers somebody suggested that instead of boiling the frames for 20 minutes that they be boiled for 5 minutes in a solution of lye water. Now it has been my experience that any article which is porous, when immersed in lye water unless thoroly soaked to rinse all the lye out, will still retain an objectionable amount, and may when dried form crystals which will grow upon the surface. I had this happen with storage-battery plates.

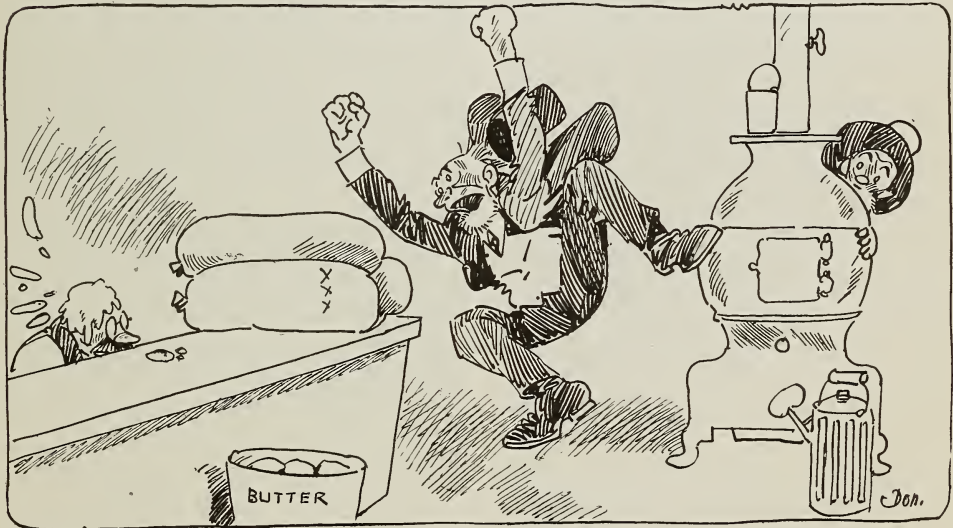
I steam frames with the equipment on hand. I take a honey tank or extractor

and pour in two buckets of water. A frame is now suspended from the top to reach just above the surface of the water, and this frame or false bottom supports all the L. frames that can be packed in. The cover is then put on and the water boiled. This will give a temperature of 212 at sea level. I see another advantage in steaming the frames. If they are not clean of wax when placed in the tank, whatever wax there is will drip off the frames down into the water. If several thousand frames were to be treated, it might pay to turn in a steam hose or pipe from a steam boiler such as is used on traction engines. F. E. Poister.

Morrill, Kans.

Extracting Too Closely.—By Bill Melvir

(With Apologies to Walt Mason.)



If you're bound to be unhappy, if you love to have the blues, if you yearn to feel real scrappy and the grouchy life you choose, just extract your honey closely; make a clean sweep as you go. Do some profiteering grossly; hasten then your bucks to blow. When your honey has all vanished, when the autumn colors glow; when the drones have all been banished, and the stores are running low, ask your grocer for some sugar just to save your bees till spring. Then you'll find the stingy bugger says, "There's nothing doing," bing! He has sold your precious honey, now he has no sweets to sell, 'cepting syrups tasting funny, which your bees refuse to smell. Now's your

chance to fume and sputter, call the grocer down and roar. Swat him with a roll of butter, tell your neighbors why you're sore. Beefing, tho, brings home no bacon, and regrets can buy no prunes. Grouchy folks are oft forsaken, for they chant such mournful tunes. If you'd rather sing and twitter—rather be a cheerful gink, just side-step remorse so bitter by the extra honey kink. Then you'll sing and chirp and bubble while you do your daily chores. Nothing drives off Old Man Trouble like beehives crammed full of stores. And when next June, bright and sunny, spreads again its flowery robe, then the man who left the honey is the man who rides the globe.

QUESTION.
In my four years of bee-keeping I have never been baffled like I was last spring. My bees were weak, very much so, as the winter was long and hard. This

year, before swarms generally issue, a tiny swarm, not longer than my hand, left their hive, taking every bee except, by actual count, ten little new nurse bees, and just a little brood no larger than a silver dollar. I thought this a strange freak of theirs; but when I found two more empty hives, and in the same condition, and, I forgot to mention, not even a queen-cell, or anything that looked like one, I gave up the problem. There were plenty of eggs in each hive, but just a tiny little bit of sealed brood. If they had been strong, I should have expected it; but, as I say, they were a long way from swarming condition. I can't make them out. You see they leave nothing behind them; no queen-cell, no brood—only five or ten little bees. What do you think of those queer bees of mine?

Indiana.

Mrs. Rose Moller.

Answer.—Very weak colonies often do swarm out in the spring just as you describe, sometimes leaving none but hatching bees in the hive; at other times leaving no bees whatever. Also when colonies run short of stores in the spring they often leave in this way, sometimes even leaving brood. From your description we think that the bees probably left because the colonies were too small. The brood-nest should have been contracted to only as many combs as the bees could easily cover, or else the colonies united with others. A colony may leave the hive in this way when there is apparently no unsatisfactory condition such as weakness or shortage of stores to explain the matter. We had a strong colony in a clean hive with enough stores and sufficient room, that this spring left their hive with six frames of brood mostly capped, and yet there was no queen-cell in the hive. We have never heard of a similar case and do not know why the colony left.

Question.—In your plan to prevent swarming do you give the hive containing the raised brood an entrance? Alexander insists in all his writings the bees from the raised hive must work thru the entrance to the bottom hive.

New York.

E. D. Howell.

Answer.—We leave no upper entrance.

Question.—After July the bees here seem to kill all the drones. Is it possible to raise good queens after this date and be sure of mating? (2) After supers are put on do bees keep brood-chamber filled with honey?

Alabama.

W. C. Smith.

Answers.—(1) Yes, we do not think you will have any difficulty in getting your queens mated. The bees will see to it that drones are also raised at the same time in order that the queens will be properly mated. (2) After the supers are on, the bees may still store a little honey in the brood-chamber; but, as fast as the queen needs the room for laying, the bees will remove the honey from the lower story and carry it up

GLEANED BY ASKING

Iona Fowls

into the supers. In rare cases bees do not remove the honey quite as fast as they should and such colonies become "honey-bound." In such cases we would

suggest removing a few frames of honey and replacing with drawn comb next to the brood. Or, in case the queen seems at fault, she should be replaced.

Question.—How could I rear queens and requeen 100 colonies after the honey flow?

Ohio.

D. Smith.

Answer.—A method that was recommended to us by J. E. Thompson of Medina and one that we have used with satisfaction is as follows: To make a cell-finishing colony, choose a strong colony, preferably hybrids, and place several combs of capped brood (a little unsealed brood will do no harm if one tears down those queen-cells that will be started in it) in the upper story above an excluder, leaving the queen below. Feed this colony continuously with a Boardman feeder, using three holes in the cover. A day or two later prepare the queenless colony. To do this, take a strong hybrid colony and place the queen and two or three frames of brood with honey in a nucleus at one side of the old stand, and leave on the old stand the queenless bees together with a frame of new pollen, some honey, and one or two frames of capped brood. These queenless bees should be sprinkled with water and fed freely. Four or five hours later change the feeder-cap, giving three holes, and give the queenless colony cell-bars with 60 to 80 cell cups with young larvae from any colony, crowding the cells close together on the bars. The next day put these cells in the cell-finishing colonies, three bars of ten each between frames of brood. The next day take out the graft and replace the larvae with young larvae (18 to 24 hours old) from a choice colony, and replace this second graft in the cell-finishing colony between frames of brood. (Altho we also made this second graft we question whether it is really worth the extra trouble.)

Now while the cells are being finished, prepare the nuclei, of three to five frames, using mostly capped brood, but a few eggs and larvae, and a few extra bees besides those adhering to the combs used. Provide these nuclei with covers and bottom-boards and place each of these nuclei above a colony that is to be requeened, leaving the entrance contracted and facing in the opposite direction from that of the lower hive.

After the cell-finishing colony has had the cells ten days, take them out and distribute one apiece to the nuclei prepared two or three days before, giving the queen-cells in cell protectors. If any queen-cells are found in the nuclei they should be torn down when giving the cells.

At the end of two weeks, if the queen is found laying, put all the unsealed brood in the hive above and kill the old queen. Also remove the bottom-board of the upper hive and between the two hives put a screen for two days, when it may be very quietly removed and a single layer of newspaper substituted.

We like this plan because there is no break in brood-rearing and it can be used even in the case of cross colonies during a dearth of nectar.

Question.—I have an outyard five miles from the home yard and I am going to requeen this outyard and then would like to carry queen-cells from it to the home yard. What will it be necessary to do in order to keep from chilling the brood in these cells while taking them from one yard to the other?

Colorado.

Edward Phillips.

Answer.—If the queen-cells are carried from one yard to another during warm weather, all that will be necessary is to cover them warmly with cotton batting. They should, of course, be moved carefully and without much jarring.

Question.—Kindly advise me the best plan for treating honey-bound brood-chambers without taking away brood, young bees, or honey? If I remove a few of these frames that do not contain brood or queen, place them in another hive body and place this above two supers with escape-board between, allowing the bees to leave and then removing escape-board, would they go back to this hive body and carry the honey down into the supers where it is wanted, or will it be necessary to remove frames after the bees have deserted them? Or, have you a better way?

New York.

A. M. Cole.

Answer.—The plan you suggested would hardly do. Better remove some of the frames of honey from the brood-chamber and place them in the super above, and then place two or three frames of drawn comb toward the middle of the brood-chamber. If, however, you prefer not to remove combs from the lower story, you can perhaps bring about the same condition by taking your hive-tool and marring the cappings of the honey near the brood. After the cappings have been broken in this way, the bees will probably remove the honey from such cells and carry it above, thus leaving room for the queen to lay below.

Questions.—(1) How long would it take a colony to draw out combs from foundation in Hoffman standard frames? Would it not spoil the whole season for honey-gathering? (2) Can I store drawn combs until next year, and can I store frames of honey until spring? Will the combs not spoil or get moldy or musty or mildewed. I have a tight chest in the basement where there is good ventilation and no extreme heat or cold. Will this do for storing frames of combs and honey?

Iowa.

John T. Stoughton.

Answers.—(1) The length of time would depend upon the colony itself and also upon the honey flow. During a heavy honey flow a good strong colony might draw out such foundation in two or three days. (2) As to how long it will be safe to store combs of honey without danger of the honey's granulating, will depend upon the source from which the honey was obtained, some honeys

granulating much more rapidly than others. Here in our clover locality, we always keep a few frames of honey over from fall until spring and seldom have any trouble from granulation. When keeping such combs during the summer the main trouble is the possibility of their becoming infested with wax worms. You need not fear their becoming moldy or mildewed if they are stored in a dry place. The chest that you suggest storing them in would be all right, and, yet, you would not need to go to that trouble. (See Talks to Beginners.)

Question.—How can I increase after the close of the honey flow?

New Hampshire.

Robert Forsyth.

Answer.—For making increase we often advise the following plan:

Divide the colony into two, filling the remainder of each hive with drawn combs. Two-thirds of the bees and all of the sealed and hatching brood are placed in a hive on a new stand, the entrance being contracted and a ripe queen-cell or good laying queen introduced. Both of the colonies should be built up by slow stimulative feeding, provided there is no honey flow at the time. Many of the bees from the new stand will return to the old stand, but all of the young and hatching bees will remain to keep the brood warm.

Ira D. Bartlett of East Jordan, Mich., uses a plan that we have never tried, but one that he thinks has merit. He puts supers of drawn comb above strong colonies and leaves them two or three days until a little honey has been stored in them, and then removes the old hive to a new stand and on the old stand places this new hive of drawn comb and honey and the old queen. When the fielders return to the hive they will find their own queen there and will continue as tho no change had been made. He says that such colonies will build up into strong ones in time for winter.

Another good authority (R. F. Holtermann, we believe) during the honey flow makes small nuclei whenever he finds extra queen-cells handy and then by the end of the flow when these nuclei have laying queens, he places several supers of honey above each nucleus, being separated from it by a bee-escape board. At first thought no one would expect the bees from the supers to return to their old location; but, as a matter of fact, he says that many of them will stay and increase the size of the nucleus, and that in this way he has been able to build up good colonies after the flow. If you try either of these last two suggestions, we would be very glad indeed to have you report concerning your success.

Question.—Will you kindly explain in your August number the method of preparing and using a carbolized cloth for putting the queen below and clearing the supers of bees.

New York.

T. H. Carter.

Answer.—A piece of cotton cloth a little larger than the super is soaked in a solution made of one part of carbohc acid to nine

parts of water. After wringing out the excess of the solution remove the cover of the hive, using a little smoke. Then lay the damp cloth on the super and replace the cover. In a few minutes the super will be free of bees.

Question.—I have one colony that is very strong. They have one super almost full, but they haven't swarmed, tho they have started queen-cells. Would it be practical to take the frame that has the queen-cell and give it to the weak colony after the cell has been finished?

New York.

D. E. Curtis.

Answer.—Our advice is to get the queen-cell out of this hive immediately so that this colony may not be inclined to swarm. We also advise that you get the queen mated before you give her to your weak colony. In this way the old queen in the queenless colony will continue laying until the time that the virgin becomes a laying queen. To accomplish this you could easily remove from your strong colony two or three frames of bees and brood, one of which, of course, contains a queen-cell. Care should be taken not to remove the queen. It would be well to take one or two frames with brood and one with some honey. These frames should be placed in a hive on another stand and the entrance contracted to a small opening. As soon as the queen becomes mated, you may then kill the queen in the weak colony and unite this nucleus with it.

Questions.—(1) Would it be safe to take all the honey but that in the brood-chamber or bottom story in the fall? Or, would you advise leaving a super on the hive? (2) Will Italian and black bees be all right side by side? (3) One of my hives seems to be full of drones instead of workers. What can be the trouble? Will the bees live thru the winter as well with so many drones? (4) What is the cause of bees bringing out their young ones and destroying them? The hive hasn't any super on. Would that have anything to do with it?

North Carolina.

Paul Southard.

Answers.—(1) At the end of the flow the supers of honey should be removed and the colony in the brood-chamber left with at least 30 pounds of stores for winter. If you find that there is not as much honey as this in the brood-chamber, it may be necessary for you to exchange some of the frames of the brood-chamber which do not have brood in them at the time for some of the full frames of honey from one of your supers. Whenever you have any choice in the matter it is better to choose those frames of honey in which the comb is old, since the bees winter better on such comb. (2) There is no reason why your Italians and blacks should not be side by side, but we think quite likely you will want to Italianize the blacks since Italians are so much more desirable. Of course, if you raise a young queen in the apiary, when she flies to be mated, she might very easily mate with a black drone, but might also do this if the two hives were in the same apiary, even if they were not side by side. (3) You have not given us a complete enough description so that we can be certain why there is such an excess of drone

comb. It may be that there is no good laying queen present and that you have either a drone layer or laying workers. In such a case you would find no worker brood at all. In case you have a queen that is just beginning to fail you might have a large amount of drone brood and yet have some worker brood. There is one other possibility, and that is that you have old combs that have too large an amount of drone-cells. If so, it would pay you, during the flow, to cut out such drone comb and replace it with worker comb. Any colony that has a large number of drones in the fall is abnormal. Otherwise, the drones would be killed at that time of the year. Unless a good queen is introduced in time so that workers may be hatched before winter, you could hardly expect such a colony to live over winter. (4) Sometimes when brood has become chilled or overheated, or, when wax moths are at work in the comb, bees may be seen pulling the young ones out of the hive. There is also an abnormal condition, which often happens at this time of the year, in which you might mistake the actions of the bees, thinking that some of them were pulling out others and killing them. The condition to which we refer is often called the "Disappearing Disease." The sick bees are often pulled out of the entrance by the well bees, but they are not killed by them. In this case you will probably see little bunches of these affected bees in the grass in front of the hive. The presence or absence of the super has nothing whatever to do with the bees' pulling others from the entrance.

Questions.—(1) In your talk in the May issue, page 295 you say "in 21 days from the laying of the egg the bee 'hatches.' Wouldn't emerges be better? Also on page 296 you say "put a queen-excluder between the two colonies" instead of 'between the two stories.' (2) Under "Life of the Queen," you say of queen-cells, "as soon as they are nicely started the queen deposits a fertilized egg in each." You may be right, but I never knew a queen to lay in a queen-cell, and altho they may sometimes do so, they more often enlarge a cell containing an egg or larva. Am I right?

Wyoming.

John M. Gibbs.

Answers.—(1) Thank you for the corrections. You are quite right about it. (2) In the past we have usually avoided this question by saying the eggs are deposited in the queen-cells. We have never seen a queen deposit an egg in a queen-cell, nor do we know of anyone who has. Furthermore, we know that there are some authorities who question whether the queen ever does this. We do not believe that the bees generally build the queen-cells around the eggs. As we all know, the queen-cells in a colony from which the queen has been suddenly removed differ greatly in appearance from ordinary queen-cells. In fact, they have more the appearance of having been built about the eggs or larvae, as we believe they were. It seems quite possible, however, that bees usually move the eggs into the queen-cells. We do not know.

IF some time elapses between the main honey flow and the fall flow, the beginner will find his bees need very little attention, yet the little work that should be done is very important. This work is to examine carefully all colonies and be certain each is in normal condition with a laying queen and enough honey to last until they are again able to gather.

Necessity of Rearing Brood.

Immediately after the main honey flow, queens often lay very sparingly or even stop entirely, so that in many cases very little brood is reared for several weeks. Now this is a very serious matter, for, since it requires five weeks to produce a mature field bee, it is clear that unless brood is being reared at this time (the last of August and the first of September in the clover regions) the colony will not have enough young bees for good wintering. The old worn-out bees will die during the winter, and, if there are but few young bees, the colony will dwindle and probably die by spring. Of course, in case of a fall flow the queen would in the fall rear more brood; but, even if none of this brood chilled, many of the young bees would emerge from their cells so late that they would have no chance for flight before winter.

Young queens will continue laying after the main flow, but old ones are not as apt to do so. Therefore, unless the queens are young, it would be a good plan to requeen with young queens.

Need of Sufficient Stores.

During the main honey flow the brood-chamber often becomes so crowded with brood that there is very little room for honey. So that when the supers are removed, the colony is left short of stores. Unless stores are supplied to them, such colonies may dwindle to such an extent that they will be worthless or will have to be united with other colonies in order to make them strong enough for winter. As soon as the supers are removed, therefore, it will pay the beekeeper to examine the colonies and if he finds any without stores, to exchange combs having no brood for combs of honey from the super, or, if he has no such stores, to feed his colonies a good hard candy. (See recipe, page 231, April Gleanings.)

Care of Combs.

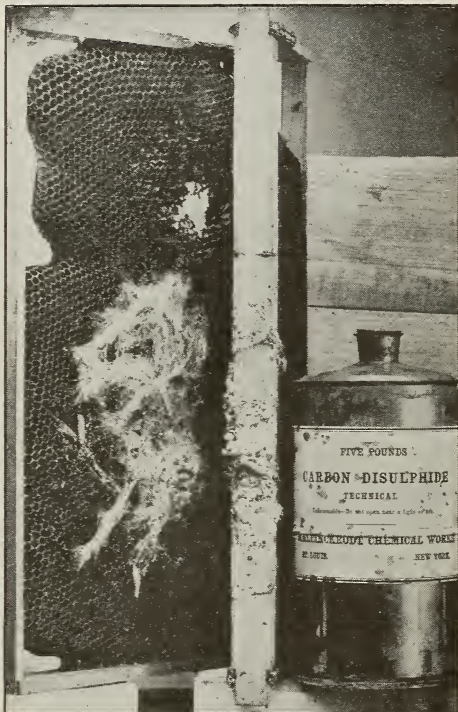
Last month we advised the beginner to pile his sticky extracting combs on the hives for the bees to clean. Before the beginning of another honey flow these supers should be removed and stored in nice, straight piles to which moths cannot gain access. These combs should be examined at least twice before winter to be certain they contain no

TALKS TO BEGINNERS

By Iona Fowls

moths. Any time moths are found in unused combs, they may be piled over strong colonies for the bees to destroy the moths or they may be fumigated by

placing an empty super at the top of four or five moth-infested supers, piled carefully on a level surface, so that none of the gas can escape. Place in the empty super at the top a few ounces of carbon bisulphide (two ounces is required for 10 cubic feet of space) in an open dish and then cover



Moth web and cocoons in center of a brood-frame.

the pile of supers tightly. This fumigation should be done outdoors, since the fumes when mixed with air are inflammable.

Marketing.

One may perhaps wish to keep all the honey for his own family, but if he decides to sell any of it, he should take pride in its presenting the best possible appearance when ready for market. The section boxes should be carefully scraped, as recommended in our last lesson, and the extracted honey should be sold in clear, colorless glass jars that best display the beauty of the honey. Just because the beginner has a small amount to sell, let him not sell at half price. He should receive just as large a price as does the large producer.

THE Western Honey Bee for July said: "No doubt there are many beekeepers in California who will dispute that it's a good honey year, but taking the State all over, and the honey producers, by and large, it is true. There are spots in the State to which this would not apply; but they are but spots compared with the vast area wherein the honey crop is good."

A summer meeting of the New Hampshire Beekeepers' Association will be held at Durham on Aug. 18, at the same time as a meeting of the State Horticultural Society. Editor E. R. Root of *Gleanings in Bee Culture*, and J. E. Crane of Middlebury, Vt., are on the speakers' list, and a largely attended meeting is expected.

An organization meeting of stockholders of the Michigan Honey Producers' Exchange was held on June 29. The purpose of this exchange is to buy and sell honey, wax, beekeeping supplies, and other things pertaining to the bee industry. The capital has been placed at \$10,000, divided into 1,000 shares of par value of \$10.00 each. As soon as \$5,000 worth of shares is subscribed for, the articles of incorporation will be filed. Future plans and purposes of the organization were to be fully discussed at the summer meeting of the Michigan State Beekeepers' Association to be held at Boyne City on July 28.

Rules for grading honey have been established in Wisconsin and will go into effect on Aug. 12. According to these rules every section of comb honey and every can or other container of extracted honey sold must be stamped or labeled with the grade, color of the honey, and a number showing the producer or packer, or else marked "ungraded." The exact rules may be obtained by writing directly to the Wisconsin Division of Markets at Madison.

The fifth annual meeting and basket picnic of the Eastern New York Beekeepers' Association will be held at the home apiary of Augustus Sweet near West Berne, Albany County, N. Y., on Saturday, Aug. 7, at 10 a. m. For particulars address S. Davenport, secretary and treasurer, Indian Fields, N. Y.

The Aluminum Honeycomb Co., with factory and office at Pasadena, Calif., has been in the hands of a receiver since June 3, and the plant has been shut down. The promoters, Messrs. Andrews and Ratliffe, are out of the plant, which has been disposed of by the receiver for \$2,500 to two young men from the East, J. H. Duffy and C. W. Diehl, who have incorporated and will continue the manufacture of the combs at Pasadena. Mr. McDonald, the inventor of aluminum comb,

JUST NEWS

Editors

has taken an active interest in the business under the new proprietorship. The liabilities of the old company will greatly exceed the assets. The receiver ex-

presses the opinion that the old company will not pay more than 25 cents on the dollar. A petition in bankruptcy has been filed.

The Georgia Beekeeping Association was organized on July 3 at a meeting held at Waycross, at which 75 Georgian beekeepers were present. The officers chosen were: J. J. Wilder of Waycross, president; vice-presidents, John W. Cash of Bogart; W. C. Barnard of Glenville, A. B. Crenshaw of Pavo, W. H. Young of Bainbridge, and W. L. Wilder of Macon, each being chosen from a different part of the State to facilitate statewide organization; the secretary is Mrs. Madge Merritt of Brunswick, and the treasurer is C. H. Herndon of Waycross. Hon. N. L. Stapleton of Colquitt and J. J. Wilder were chosen to present the claims of the association to the legislature and ask for a foul-brood law and an appropriation for its regulation. American foul brood has made its appearance in serious infections in northern Georgia near the South Carolina line among some of the best apiaries of the State, where it is believed to have been introduced thru shipments of nuclei made to Georgia from States north. The organization was effected with much enthusiasm on the part of beekeepers present who represented 50,000 colonies. J. J. Wilder entertained the visitors in his factory, where dinner was served to the delegates attending.

The 28th annual session of the Texas Honey Producers' Association will be held at College Station, Texas, Aug. 9 to 11. E. G. LeSturgeon is president and Alma M. Hasselbauer of San Antonio is secretary and treasurer. An excellent program has been prepared. On Wednesday afternoon a field meet will be held at the Experiment Station apiary under the direction of H. B. Parks, State Apiculturist, with practical demonstrations of colony manipulation by C. S. Rude, State Inspector of Apiaries.

The Quarterly Bulletin of the State Plant Board of Florida for April gives the report on inspection and eradication work of bee-disease from June 1, 1919, to March 31, 1920. The number of apiaries inspected was 195; number of apiaries infected with American foul brood, 23; number of colonies inspected, 8,951; number of colonies infected with American foul brood, 78; number of colonies destroyed, 78; number of colonies infected with European foul brood, 3.

One of the most enthusiastic beekeepers' meetings recently held in Ohio was that of the Licking County Beekeepers' Association

(Continued on page 500.)

It certainly seems strange to me that in the A B C book in the article on bee-hunting that it does not mention lining (or coursing) bees, as it is known in Texas) from a pond or pool of water. That is three times easier than with the hunting box. Sometimes I have seen six or seven lines going out from one small pool."—W. T. Rabb, Travis County, Texas.

"Largest crop of honey for years. Plenty of alsike clover sown last year. Lots of rain keeping the clover blooming a long time and very little cut yet."—J. M. Ramaley, Westmoreland County, Pa., July 12.

"The bees have done splendidly on fruit bloom and horehound, the latter producing here a honey of far better quality than is described in the A B C & X Y Z book." Harold P. Whitehill, Santa Clara County, Calif., July 7.

"The high price of sugar is causing thousands of acres of good bee-range to be planted to sugar cane in this country."—Frank R. Smythe, Jr., Oriente, Cuba, June 15.

"Bees are doing well and storing well in supers. We are having lots of rain, which is good for the clover. Took off two finished supers yesterday (July 2) which is quite early for us."—J. E. Crane, Madison County, Vt.

"Bees have had a late season, but bee-pasture is fine. The bees are in good condition, but there has been too much wet weather for them to get much honey. The clover crop will be very short in this locality."—Cass Schoonover, Scioto County, O.

"My average comb honey has been about 100 pounds per colony for 14 years. I use 10-frame Langstroth hives and Danzenbaker sections and use old-fashioned chaff hives. I haven't had a swarm of bees leave any of my hives, to my knowledge, in 12 years. I find it no hard job to keep bees from swarming. The old advices from old beekeepers, keep all stocks strong at all times, is one of the best plans to follow. Those chaff hives I line up on the inside and bottom with plenty of newspapers and pack between with dry planer shavings. The entrances are the same I used 30 years ago, $\frac{3}{8} \times 8$. Those hives are situated on a sand hill three miles from the south shore of Lake Erie, with no windbreak of any kind. I can't call to memory when I have lost a colony in wintering. I have no increase and no losses."—Thomas Clark, Ashtabula County, O.

"The Midlothian Beekeepers' Association (of England) is credited with possessing a most detailed bee model, measuring 5 ft. long. It is capable of analysis for the purpose of anatomical and physiological study

BEES, MEN AND THINGS

(You may find it here)

of bees and will show full details even of the vascular and nervous systems. From an educational point of view such a model is invaluable. It is the

work of a French artist and has cost £200. The Association is to be congratulated on having such a valuable specimen of applied science and art."—The Bee World.

"Aluminum is a good conductor of heat and cold, and wax is a very poor conductor. I can imagine the heat leaking to the ends of the aluminum combs on the cool spring days and the weak colonies dwindling away because their owner 'knows better than they do what is good for them.' Altho I am not from 'Missouri' the friends of aluminum combs will have to 'show me.' That is, they will have to let the bees show me."—Oscar Ritland, Juneau County, Wis.

"White clover has not yielded much nectar for two years, but it looks good this spring. So we hope for something better. The farmers are beginning to sow sweet clover for pasture. That will help some. Other sources of honey are from goldenrod, fall flowers, and buckwheat. There is only a small number of colonies in this county, but more people would keep them if they could get them. The sugar shortage is making some people sit up and take notice of the bee-man who gets the honey."—Alza D. Brown, Pipestone, Minn.

"Here's a record: A friend of mine, and not in the best of health, started in 1919 with 40 colonies in 8-frame hives; increased to 75. These 75 averaged 325 pounds of extracted honey; the two best produced 450 pounds each. The entire crop was sold for 20c per pound, and now he has sold the 75 colonies and equipment for \$20.00 per colony, and this within 100 miles of Portland; and the trouble is, it is like the gold fever—everybody imagines they can do as well, when the truth is more failures should be recorded than these unusual successes."—E. J. Ladd, Portland, Ore.

"What is the cause of foul brood? What is the propagating medium? Why is it more virulent at one time than another? All questions which, if we knew more, we could answer offhand. After all, what do we know about it? Precious little."—G. Thomas, Cambridgeshire, England.

"I do not have much trouble getting my bees to empty unfinished sections if the sections are given to the bees before the weather gets too cold. I take an empty super and remove the separators and line it with a piece of newspaper. I then break the cap-pings and scrape the unsealed cells down and fill the supers. The paper holds the honey

that may leak from the injured sections. Place the super on the hive and with the hive-tool punch a few holes in the paper and the bees will do the rest. They will empty every injured cell and repair it again, provided they have room enough below to store."—A. N. Norton, San Juan County, N. M.

"White clover does not seem to be yielding honey very freely, altho there is an abundance of bloom. A plant that is rapidly spreading about this locality is Devil's weed. This seems to be visited by bees; but it has a deep cut that seems to me too deep for the bees to get access to the nectar."—F. R. Davis, Dutchess County, N. Y.

"Nine hundred and thirty-three members were enrolled in the correspondence course in bee culture conducted by the Entomology Department of the Oklahoma A. & M. College in 1918. This course was the first of the kind ever held in the State and was the means of arousing much interest in bees and honey production. In the class there were 612 men, 175 women, 11 boys, and 28 girls. The correspondence course consisted of 16 weekly lessons and 4 examinations were held. Instructions were given especially adapted to Oklahoma conditions."—W. J. Green, Stillwater, Okla.

"White clover and alsike are in profusion and yielding well, but for lack of bees the crop will be short. The loss in this State was at least 50 per cent."—H. H. Flick, Adams County, Pa., June 22.

"The last two seasons have been the poorest that I have ever known of; but the present one has proved to be fine so far and promises to be a record-breaker. But the crop as a whole will not be a large one, for the number of colonies has been greatly reduced. Still everybody who owns bees is making large increase, and many beginners have come into the field. You never saw such great enthusiasm."—J. B. Marshall, Avoyelles Parish, La., June 20.

"According to reports in this particular locality, 65 per cent of the bees died this spring, and most of them died in the months of March and April. Practically all the bees that were in double-walled hives wintered in good shape and came out strong."—R. E. Wiseman, Mineral County, W. Va., June 25.

"Gleanings in Bee Culture has described a new method of wiring frames which the Americans have named 'The Thousand Dollar Trick,' and I think it is most appropriately named. This has opened up a wide field of investigation here in South Africa. For it has been a long-standing source of complaint that our bees stored too much honey in the brood-chamber. Here in our warm climate, where frames are so carelessly wired and we depend on all kinds of foundation, the foundation must stretch a good deal, the cells become enlarged, and the queen refuses to lay in them, as they are not the natural size and the bees use them

for honey storing. Let us give this method a fair trial and see if it does not overcome the bad habit of our bees, for which we have been blaming them during the past decade, and, if it does, we will not only save thousands of pounds of money, but will be able to name it 'The Thousand Pound Trick.'"—Sunday Times Farmers' Supplement, Johannesburg So. Africa, March 28.

"I bought six second-hand worm-eaten hives. Aren't they better for firewood than for hives? I think so. The beekeeper from whom I got my bees expected to have at least 17 swarms for me last spring. I had engaged all of them and, not having enough hives, I looked up another customer to take what I could not, but there was only one swarm the entire season, and I do not know how many were destroyed by moths. This beekeeper, however, sees only 'bad luck'—no cause and effect. His hives are all 'gums.'"—M. S. Oliphant, Sussex County, Del.

"This has always been a great locality for alsike and white clover, and the last two years the farmers have started growing sweet clover. Where much of the land is light and gravelly they have gone in for it quite extensively and some have made small fortunes growing seed. The yield is usually from eight to sixteen bushels per acre, and they were getting \$20.00 or \$25.00 per bushel this spring."—J. C. Duff, Tara, Ontario, April 6.

"We bottle up royal jelly and keep it for quite a while. Then when ready to use, we mix a small amount of water and shake the whole contents. I use a common medicine dropper to take it out of the bottle and place it in the queen-cells. One dropper full is sufficient for many queen-cells. I find this way saves much time, when our time counts so much in queen-rearing."—D. W. Switzer, Saluda, S. C.

"There is a little apiary at Lockport, just a back-yard affair, covering a space of about 15 square feet, with six beehives, which are modern in every respect, with an up-to-date bee enthusiast as its owner. This woman has received this past season 65 gallons, together with 300 pound-sections of honey, realizing over \$33.00 per colony. Almost anyone can do the same thing if the bees are given the proper care and attention."—Press Bulletin, Baton Rouge, La.

"I have kept bees here for 20 years, and I never before saw such a late, cold spring as this last one. I think there are other regions far ahead of this for beekeeping—no colonies here with three or four supers on that I have ever seen. The farmers cut their alfalfa before it blooms, so that all the honey source we have is white clover and wild flowers, yet some years the bees store a surplus, but I can't see where they get it. No winter protection is given at all, hereabout. Foul brood here is bad, too."—E. S. Thorington, College Place, Wash.

I HAVE told you again and again of the constant stream of "kind words" that have been coming for years in regard to these Home papers. I have told you about getting up in a union meeting long ago and announcing my determination to let the Lord's work come first and A. I. Root's second. Shortly

after that public decision I started these Home papers in the bee journal, little at that time, almost fifty years ago. It was very unusual, at that time, to see religious talks in a class journal devoted to agriculture or livestock. Just recently that book, "In His Steps," by Sheldon (which had such a tremendous sale some years ago, and which has been so much talked about), commenced having a big sale, once more. I am glad of it. At the time I am speaking of, altho I had not then read that book, I decided to conduct what business I might have in this busy world, as near as I could, the way Jesus would do it were he engaged in business. No doubt I started out awkwardly, as a baby does when it is just learning to walk; and even some of my good friends, professing Christians, thought I was making a mistake in starting such a department in a journal devoted to *bee culture*. I prayed that God's Holy Spirit might direct my poor efforts, and I had faith to believe that he would so direct. Almost as soon as the journal came out with my poor attempt to *tell* how I had been lifted "out of the miry clay" and my feet placed on the solid Rock, a letter came with a vigorous protest. The writer said that if I proposed to "crum my religion down the throats of my readers" in that fashion he wanted his journal stopped. Well, I do not think my faith wavered very much; but in order to see how many felt as this man did I published his letter. As soon as the journal containing the protest was fairly out there came another letter, and this second letter read something like this:

"Brother Root, when I saw you had lost a subscriber I told my wife that I was go-

OUR HOMES

A. I. ROOT

Search me, O God, and know my heart: try me, and know my thoughts, and see if there be any wicked way in me, and lead me in the way everlasting.—Psalm 139:23, 24.

I know that my Redeemer liveth.—Job 19:25.

Simon Peter answered him, Lord, to whom shall we go? thou hast the words of eternal life.—John 6:68.

He brought me up also out of a horrible pit, out of the miry clay, and set my feet upon a rock.—Psalm 40:2.

ing to get you another in the place of the one lost, and that, too, before I went to bed; and I had better luck than I expected. Here is the money for two new subscribers."

Other letters of a like tenor followed, and the same thing is going on now and has been going on for over 40 years.

When the good people of our land—yes, and, I am glad to say, of other lands too—found out I was working first for the Lord Jesus Christ, and not for self, kind, loyal friends sprang up everywhere, and Gleanings went, as you know, all over the world. I think I stated that some extra pages would be given for the Home papers so that our readers could remember that the Home papers cost nothing. And by the way, dear friends, all along these years I have enjoyed work for which I received no pay, in dollars and cents, more than anything else. In furnishing seeds for the new sweet clover I do it without any pay; and every little while somebody sends money for some seeds; but my special clerk who sends out the seeds is instructed to credit all such money on subscriptions to Gleanings or return it. *The A. I. Root Co.* sell goods; but A. I. Root himself has nothing to sell. We are just now getting our new seeds of the new annual clover from our little plantation down in Florida, and we shall have more coming on here in Ohio, when the Florida seeds are gone; but they are all to be given away and are not for sale.

Let us now go back to the Home papers.

Other friends besides the first one mentioned have objected to my "theology" as they call it. Just recently a writer who sent for seed suggested that if I were better posted I would be thanking "evolution" for this new clover seed instead of thanking God. I think he suggested that God had nothing to do with it—it all came thru evolution. And then he went on to say that if I knew anything about the doctrine of evolution I would recognize I was behind the times in giving the old discarded account of creation as given in Genesis.

When I suggested that if *he* were up to date he would find that evolution is not considered inconsistent with *Genesis*, he demanded my proof.

Well, one of my grandsons has just returned from college in Oberlin, Ohio, and he is pretty well in touch with the Oberlin professors, including President King; and when I asked him if Oberlin rejected evolution as not in harmony with Bible teachings, he answered with a most emphatic "No." Well, my evolution friend finally sent me a book to read. Now, it is very seldom that I read a book nowadays. I have not time with all my reading that I feel I *must* at least give some attention to. I commenced to run over the book hastily, and in some way it reminded me of things I had read long ago. I turned over to the preface and found the date, 1882. Just think of sending me a book to keep me posted up to date that was printed 38 years ago! Well, so far as I can learn, and I think I keep pretty well abreast of what is going on in the world, especially the world of science, such books as the one I have mentioned are out of date and gone by. The whole world is recognizing just now, as it never did before since creation, that all great reforms, especially benevolent reforms, have their source in the teachings of our Lord and Savior Jesus Christ. Besides the brother who took me to task because I was not up to date, there were two others whom I have known for years who kept writing me because of my foolish faith in God's holy word. One of them said to me a while ago, "Mr. Root, how can you prove there is a God?" After studying over it for some time—yes, and I think praying over it—I gave him the following brief answer:

"I know that my Redeemer liveth." I think the word *know* I put emphatic. Let me now call attention to a fact that I have sometimes thought rather queer. When your faith in the Scriptures or in anything else that is good is challenged, the very best answer you can give is a quotation from the Bible. The whole wide world, believers and unbelievers, recognize the force and power of Scripture texts or quotations.

Some of you may be inclined to ask right here, "Mr. Root, you say you *know* that your Redeemer lives. Will you explain a little more fully?" Yes, gladly. Never shall I forget the time when I was in the miry clay of unbelief—when Satan's clutches were so firmly fixed on my soul and body that I had almost given up in despair. If anybody was ever in the "miry clay," I was that one. In fact, I some-

times almost felt that only death could end it all. You did not know me then, or at least only a few of you. In desperation I used something like my little prayer, "Lord, help." Instead of saying, "Lord, help," as in the years past, however, it was more like this: "Oh, God, if there be a God, have mercy on a poor miserable soul." That prayer was answered—instantly answered. A gleam of hope came into my poor tortured soul. In Pilgrim's Progress we are told how the burden dropped all at once from the shoulders of Christian. A new life opened up; and the only thing in the whole wide world that could give me information and full particulars in regard to the new life was God's holy word. I turned over to the New Testament and began to read, and for the first time in long years I *understood* what I read; and, dear friends, I have been rejoicing and thanking God from that time to this for that wonderful deliverance out of the "miry clay," and for the still more wonderful planting of my feet on the solid Rock. Once during the delirium of a fever some fiend suggested that I had been swearing. I protested, and declared that not once since my surrender in years gone by had I taken God's holy name in vain. Other voices joined with my accuser, or at least in my delirium I imagined they did, and backed him up by saying, "Yes, we *all* heard you." Again I protested—yes, protested in agony—and finally, in spite of the delirium, I thought of my "emergency prayer," "Lord, help;" and, as it almost always happens, the answer came quick, something like this: "No, no, dear child: never once, not for a single minute since you shouldered your cross to follow me, have you gone back by word or thought. Lie still in peace. Go to sleep." At his words the emissaries of Satan hastily retreated, and I slept and came back to life.*

By the way, these unbelievers who have been following me and reading Gleanings for years have given as a reason for doing so that they were impressed by my sincerity. Whether I was right or wrong they gave me the credit of being honest. After some long letters back and forth between one of these friends and me, I told him it was useless for us to spend time in arguing. "Now," said I, "instead of trying to answer you myself I am going to pray that *God's Holy Spirit* may answer you. I wish, however, first, that you would tell me

*From that time to this nearly fifty years ago, I have never for one minute meditated going back to that old life of unbelief. Do you wonder that I can honestly say, "I *know* that my Redeemer liveth?"

that you are ready to receive instruction from this same Holy Spirit from your Creator. You seem to be anxious to get at the truth of things. Now, will you welcome and receive the evidence from the Spirit of your Creator when it comes to you?"

He gave me no direct answer to this; but I have good reason to believe that he is getting on better ground. There is one thing that I have hesitated somewhat about before broaching this matter. When I have become intimately acquainted with those who reject the Scriptures, and those who reject the idea of a "God of love," I have almost invariably found there was a reason for it. When a physician is called to dress a sore finger, or something of the sort, the first question is, "Is it not a sliver or a piece of rusty nail? If so, nothing can be done until this foreign matter is removed." It may be a painful operation; perhaps a surgeon will have to be called in; but before any real recovery comes about, the foreign matter must be removed. Well, in almost every case where there is a rejection of the Scriptures there is something out of sight that will have to be removed. "If I regard iniquity in my heart the Lord will not hear me."*

Now in regard to the words of our opening text: You will notice it is quite parallel, or at least along parallel lines, with my favorite text that I have quoted so much—"Let the words of my mouth and the meditation of my heart be acceptable in thy sight, O Lord, my strength and my Redeemer." Well, in this text at the close of the 139th Psalm David goes further. He says, "Search me, O God, and know my heart; try me and know my thoughts." My friends, what do you suppose would happen if all mankind would make this prayer its prayer? While I write on this 7th day of July there is great excitement all over our

land as to who shall be our next president. What would happen if the candidates for the presidency would make that prayer their prayer? and what would happen if our politicians or business men would use the last part of that text and really desire to see if there was any wicked way in their thoughts, and ask God to lead them in the way everlasting? There is much talk about profiteering, and a lot of it is being brought to light. Could any man or woman be accused of profiteering if such persons made that prayer their prayer?

A good divine, who has now gone to his rest, once said it is an excellent thing to pray for the influences of the Holy Spirit; but he added, "Dear friends, if you persevere in it, it may make you decidedly uncomfortable." At first I was a good deal surprised at this, but of late I think I understand it. I have been praying that the Holy Spirit might search *me*; and as a result I have been able to see, as I never saw before, the wickedness and selfishness of my own heart. You know I am given to enthusiasm; and all my life the temptation has been to exaggerate just a little. I do not know, but I have had a sort of idea that people would not listen unless I stated things strongly. I am trying hard to stick to the exact truth in all of my statements better than I ever did before, and I am happy in doing it. There may be in God's holy word things that I do not understand or comprehend, but the beautiful texts I have quoted in this Home paper are enough alone to place the Bible above any other book that the world contains. Poor Peter, when the Master asked him if he too would turn aside, replied, "Lord, to whom shall we go. Thou hast the words of eternal life."

OVER 1000 BUSHELS OF POTATOES IN ONE SEASON FROM ONE ACRE.

My good friends, if you want to understand what follows, turn back to page 325 of the June issue of Gleanings. Below we give you the particulars promised in regard to the wonderful crop of potatoes:

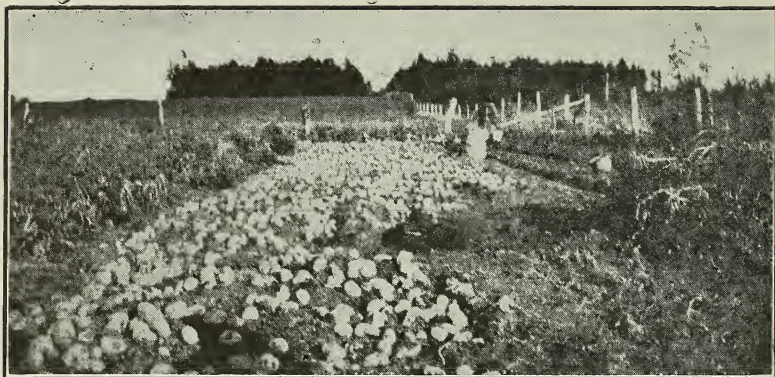
Dear Mr. Root:—The large crop of potatoes was grown by J. Rhodes of Dryden, Ontario, not by myself. They were grown by Mr. Rhodes from Green Mountain seed. He has selected the best potatoes every year from roots that bore not less than 14 or 15 potatoes. He has done this for several years and has bred a strain of potatoes that I do not believe can be beaten in any part of the world. This is a fine district for the growing of seed potatoes. By careful selection and the help of the climate, we grow them absolutely free from any disease. We have organized a seed-potato-growers' association and I am the salesman for the association; so if anyone happens to want

*The letter below, just at hand, comes in nicely right here. Please consider particularly the portions I have italicised.

"I am sending you a letter and check of a kind which I suppose you don't very often receive.

"A few years back I sent in a bee-supply order and received one 1½-story hive that I did not order; but just the same I kept it. I hope you will forgive me. Now I have become a Christian; so I must pay for the hive. A person does not think it is a very big sin to do a thing like that, and you don't notice it so much until you can see yourself as you really were. I must say it is a great blessing that I can pay for the hive and tell you about it. For some time I have been putting off writing this letter for fear that you would not take it the way I meant. Then also I hesitated about confession, but now I have got to where I have to confess before man and God; so it is really working good, and it's the only life worth living. Well, I hope this letter will be satisfactory and also bring some light to others, and enable them with God's help to start in this better life. Al. Lindstrom.

"Rt. 2, Foreston, Minn., May 10, 1920."



Just at digging time.

any of these potatoes at any time, he will have to write to me. All you say about my being a beekeeper, and being a successful one, is quite true. I started six years ago with two colonies of bees, and I have today 133 colonies and a complete equipment with which to handle them. When I started I did not know anything about bees. I have had to learn from books (your books), and as there was no other beekeeper near here I had no one of whom to ask any questions. But I have done well, and have a lot to thank *you* for. I just love the bees, and, if I am spared to be a hundred years old, I will still be a beekeeper. I am enclosing you two prints of that fine crop of potatoes as they lay in the field. I sent the potatoes to you because I had read so much about your Florida home and the potatoes you had grown there, and how you took them to the store in your electric automobile, which is driven by wind power, I knew you would be interested in them. I sent some of these potatoes to Luther Burbank, Santa Rosa, Calif. He has written me two letters about them, saying they are certainly fine potatoes. The actual yield of this plot was 1020 bushels to the acre.

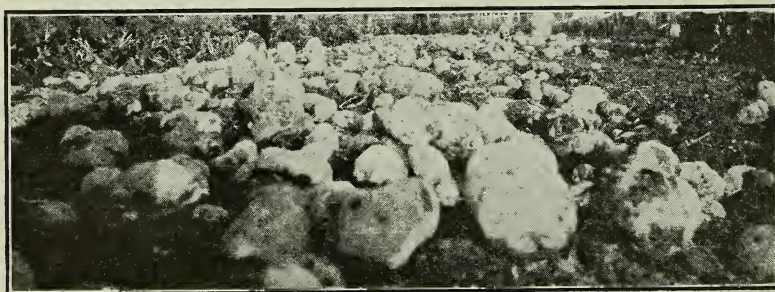
CHARLES NORGATE.

Dryden, Ontario, Can., June 3, 1920.

In addition to the above we give part of a letter received last February. It gives some explanation in regard to that locality, not only for potatoes but for clover and bees as well. In fact, at the head of his stationery he has in print, "From the Famous Clover Fields of Dryden."

A. I. Root, Esq.,
Bradentown, Fla.

Dear Sir:—This district is, so far as I know, the only one that is known to produce potatoes free from disease. We grow potatoes here and ship them both east and west for seed, and the people who buy them say that they can get none so good anywhere else. We have a very cold climate in winter but very hot in summer, and a short but very fast growing season. The potatoes grown here are so hardy that when they are taken to a warmer climate they mature early and are much better than seed grown farther south. This district is cut off from any other, being a piece of land sixty miles long and 10 to 20 miles wide, with about 150 miles of rock east of us towards Fort William and 150 miles of rock west of us and 60 miles of rock south and all rock north of us to Hudson Bay. We are 1200 feet above sea level, so you see we are in a district all by itself. I think this is one of the reasons why we can grow potatoes free from disease. We have never seen any potato bugs here, which is a wonder. We grow some of the finest clover seed in the world here. This is where the famous Northern clover seed is grown. The clover never freezes out here; the seed from the first crop of blossoms is always saved. I would like to tell you how much I have to thank the Roots for. It is with your help that I have got thru Gleanings and your A B C book, that have helped me along in this world. Seven years ago I happened to get hold of your A B C of Bee Culture and read it, and got a bad dose of the bee fever. I bought two colonies of bees that spring and subscribed for Gleanings and today I have 120 colonies and all



'Seeing is believing.'

the necessary equipment. Last season I took nearly four tons of honey. I have every prospect of doing well—thanks to the good work the Roots do in their books. So you see I have a lot to thank you for. Your influence is felt in a great many homes in this country, far more than you suspect.

Yours very truly,

Dryden, Ont., Feb. 12, 1920. C. NORGATE.

Perhaps I might remark that these same potatoes are being tested in my garden here in Medina. Friend Norgate was so kind as to send me a bushel of the potatoes by express. They were planted May 19th. I cut the whole bushel of large or very large potatoes to a single eye, and there is scarcely a missing hill in the whole plot—perhaps an eighth or a tenth of an acre. I believe it is about the handsomest plot of potatoes I ever saw. At present writing, July 13, they are just coming into bloom, and there is occasionally a potato the size of a hen's egg. So far these, like the same potatoes I grew in Florida, seem to have wonderful vigor, and there is no trace as yet of any blight, fungus, nor any thing of that sort. I may give a picture of the plot later. It seems to be a well-recognized fact just now that potato seed from the extreme North is better, not only for Florida, but for most of the other southern States. In fact, the greater part of the potatoes planted in Florida come from the State of Maine. So far, I believe the general verdict is that (in spite of the expense of the long hauls) shipping seed potatoes from the North, not only pays well, but pays big.

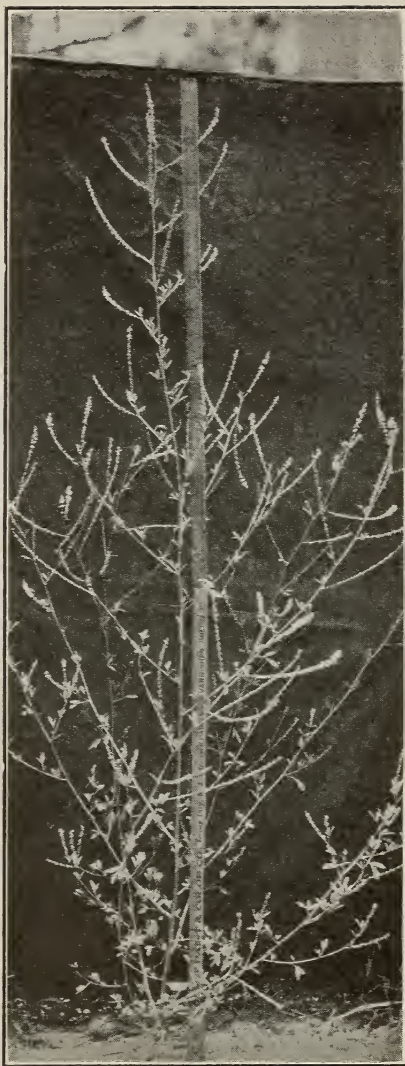
THE NEW ANNUAL SWEET CLOVER.

Our readers will, no doubt, be greatly interested in the following from our good friend Professor Hughes, who has the credit of giving not only to the beekeeping world, but to the agricultural world at large, this new wonderful legume:

Mr. A. I. Root:

You will be interested in knowing that we sent out something over 45,000 small samples of seed of the annual white sweet clover this spring, and that we had hundreds and thousands of requests for larger quantities of this seed at almost any price which we might ask. We, of course, had no seed for sale. When we made announcement regarding this clover we stated that it did not originate here, but that a few plants were discovered in one of some 500 different seedings of the common biennial white sweet clover. We stated that it was our opinion that the original mutant from which this clover has apparently all come occurred somewhere on wild land in the South and probably somewhere in the State of Alabama.

I am leaving Ames this afternoon to go to Alabama to investigate the extent of the acreage of this annual white sweet clover growing on waste lands there. I have been in touch with two different men in one community and have had samples of plants sent me which definitely establish the fact that it is growing wild there. How extensive the acreage may be I do not know. It may be that



Six feet high in only 100 days from the seed.

there is a considerable acreage of it. The two men who have written me are apparently the only men there who appreciate the fact that they have the annual white sweet clover, as well as the common biennial clover.

Because of the very general interest and great demand for seed of this annual white sweet clover an effort should be made to save every pound of seed which we possibly can. It occurs to me that the best way to do this would be to put a few reputable seedsmen in touch with the situation. I have picked out ten seed companies in different parts of the country to whom I am writing this letter, with the hope that they may be able to send a man down there and get as much of this seed harvested as possible, being sure to keep it pure. You will readily appreciate the fact that there are many seedsmen who might take advantage of a situation like this. I believe that the only practical way for you to get this seed is to send a man down there.

Seed will be ready to harvest from July 10 to 15 or shortly thereafter.

The only thing which we will ask of the seedsmen whom we are putting in touch with this seed will be that they use great care to insure reasonably pure seed of the annual, and that they supply us with the names of the men to whom they may sell seed next season.

I shall make Uniontown, Alabama, my headquarters, and suggest that you write me there immediately, if interested.

Very truly yours,

H. D. HUGHES.

Farm Crops Department.

Ames, Iowa, July 2, 1920.

In regard to the picture we present, here is something from our good neighbor, whose place is right across the street from my Florida home:

Dear Mr. Root:

I have just been over to look at your clover. The two tallest plants are about 6 feet high. They seem to have very few leaves on, and it seems to me that if it is to be used for hay that it will have to be cut before the seeds mature. The leaves are very small, and so the foliage was very little compared with the size of the plant.

The seeds are just beginning to ripen, and I am enclosing a few in the small envelope enclosed in this letter. I am not sure that the cultivation about these plants has been sufficient to get the best growth, and so I am going to take a few seeds and plant them in my strawberry bed, which I am giving very careful culture, and try to find out what they will do here in the rainy season. I expect that a good many of these seeds are too young and may not germinate. In a week or less there will be a good many, as the plant seems to produce very many seeds, and I find that it is not a difficult matter at all to gather them. If you desire to save all the seeds and will let me know I will see if I can arrange it for you. The lowest limbs of the plants, being the oldest, ripen their seeds first.

We are having fine weather and everything is growing finely. I planted a sack of Irish potatoes later than I would have been willing to if the price had not been so high and they are turning out finely. I am getting four dollars a bushel at the store and I take down four bushels about every three days.

Our Sunday School is holding up finely.

E. B. ROOD.

Bradentown, Fla., June 27, 1920.

Below is another letter, from the editor of the Rural New-Yorker:

Dear Mr. Root:

My own patch is up and is growing at a great rate. I have never seen anything grow with such speed. I am convinced that in this clover we are to have a manurial plant that will be of wonderful benefit on our eastern farms. I was amused the other day to have a letter from a Florida man who claims to have discovered the old-fashioned Two-Year sweet clover becoming an annual in Florida. That's a new one to me, but things are happening at such a rate that it would be a very wise man who would claim positively that anything is impossible.

Yours truly,

H. W. COLLINGWOOD,

Editor.

333 W. 30th St., New York, July 6, 1920.

And here is still another, from the Henry Field Seed Co.:

Friend Root:

I have examined our plants and find down in the upper whorl of leaves the blossoms showing up, so

we can expect to have blossoms before a great while, I am sure. And probably in another month we will begin to gather seed.

I am glad to have the photograph of your plant, taken in Florida. Eighty-seven days is quite rapid, it seems to me, but probably every one of those days has been a growing one, while with us the conditions are not always so favorable, in fact, seldom so.

HENRY FIELD SEED CO.,

By Henry Field, Pres.

Shenandoah, Iowa, June 23, 1920.

The latter will probably have seed for sale before anybody else that I know of. Possibly Professor Hughes in his trip may be able to arrange plans for securing seed.

"DO GOOD AND LEND, HOPING FOR NOTHING AGAIN."

Dear Mr. Root:

It is to be hoped that the farmers of this country appreciate the manner in which this discovery has been handled. It is seldom that so valuable a find is given free and wholeheartedly to the world. I believe that both Professor Hughes and yourself are to be commended for giving up your time and attention to the distribution of this new plant, which, according to the accounts, will mean a valuable addition to crops.

FRED T. BLYTH.

2182 E. 95th St., Cleveland, O.

KIND WORDS FROM A SOUTH AMERICAN MISSIONARY.

Dear Mr. Root:—I feel I should say "brother in Jesus Christ," for your articles in the "Our Homes" Section in Gleanings in Bee Culture reveal that such indeed you are. I am sure you will be interested in hearing from one who has been 24 years a missionary to the Indians of South Central Chili, about the same distance south of the equator as you are north.

First of all, thanks for your testimony to our Lord and His grace in "Gleanings," and may your gleanings be abundant at "Harvest Home" time. Such a testimony has more influence and power than that of even a minister, it being free from an accusation of being "professional." May it grow exceedingly. I especially liked that in the June number, its personal and home appeal.

After the conversion of a number of the Araucanian chiefs, the translation of a goodly portion of the Bible in their language, the education of some thousands of their young men and women in schools founded under my direction, for them as well as for the sons and daughters of the English-speaking residents here, I have retired, as the Missionary Society thought my plans too large for them, and am now, with my family, staying "on the job." Evangelistic, pastoral, educational (literary, industrial, and agricultural), medical, social, and other organized branches have been left to give away to personal and home testimony, whilst I am supporting myself by bees, fruit, poultry, etc., at the same time. Our two boys, we trust (my wife and I), will stay here and give their lives to the work to which we have devoted our own.

I have just been writing to the office and thought I would enclose this to you. Also to ask you if you have a little of that "new white sweet clover seed," which you would like to see sown in South America, and passed on to the Araucanians, to do me the great favor of letting me have a little. It is really needed here I can assure you. Our Indians will appreciate it. They are glad to get hold of anything new. Yesterday I sold 50 two-year old apple trees to one young fellow educated in the Mission schools (the agricultural and industrial one). Some years ago I sold 100 to another old scholar. Progressive Indians, are they not?

That makes me think of the great curse intoxicating liquor has been to them. Thank God, our boys, as a rule, give it the go-by. Public opinion amongst the Spanish-speaking people in Chili (and in all South America) needs much educating before they will follow the wonderful world-example the United States is giving. Your words as to it and as to cigaret-smoking (general amongst the Spanish-speaking youth, even if only mere boys) are a noble witness.

(REV.) CHARLES A. SADLIER.

Casilla 75, Temuco, Chili, 19th July, 1919.

Classified Advertisements

Notices will be inserted in these classified columns for 30c per line. Advertisements intended for this department cannot be less than two lines, and you must say you want your advertisement in the classified column or we will not be responsible for errors. Copy should be received by 15th of preceding month to insure insertion.

REGULAR ADVERTISERS DISCONTINUED IN GOOD STANDING.

(Temporary advertisers and advertisers of small lots, when discontinued, are not here listed. It is only regular advertisers of regular lines who are here listed when their advertisements are discontinued while they are in good standing.)

S. B. Post, H. G. Quirin, Curd Walker, Unitle Co., E. D. Townsend & Sons, Sarasota Bee Co., Pleasant Hill Caviery, M. F. Perry, Herman McConnell, Evan Jones, Foster Honey & Merc. Co., L. W. Crovatt, R. O. Cox, E. C. Bird & A. C. Stanley, D. P. Barrett, J. Ivan Banks.

HONEY AND WAX FOR SALE

Beeswax bought and sold. Strohmeier & Arpe Co., 139 Franklin St., New York.

FOR SALE.—Clover and buckwheat honey in any style containers (glass or tin). Let us quote you. The Dero Taylor Co., Newark, N. Y.

FOR SALE.—12,000 lbs. new crop, well-ripened Old Ky. No. 1 clover honey; in 60-lb. cans, at 22½c per lb., f. o. b. Brooksville. Sample 25c. W. B. Wallin, Brooksville, Ky.

FOR SALE.—We have a very choice lot of white clover honey at 25c per lb. in 60-lb. cans; also some very choice fall honey at same price. M. V. Facey, Preston, Minn.

FOR SALE.—We have a small part of our crop of white clover-basswood extracted honey left, packed in new 60-lb. cans, two to the case. Write for prices. D. R. Townsend, Northstar, Mich.

FOR SALE.—New crop White Haitian Honey, 30-gallon barrels, 19c per lb.; 60-lb. tins, 20c per lb. California Orange Blossom Honey, 60-lb. tins, 23c, f. o. b. New York. Hoffman & Hauck, Inc., Woodhaven, N. Y.

FOR SALE.—Finest Michigan raspberry, basswood and clover No. 2 white comb, \$5.50 per case; No. 1, \$6.00; fancy, \$6.50; extra fancy, \$7.00; 24 Danz. sections to case. Extracted, 60-lb. cans, 25c per lb. W. A. Latshaw Co., Clarion, Mich.

FOR SALE.—About 40,000 lbs. extra-fancy white-clover honey. Price f. o. b. Kalona, case, 2 60-lb. cans, 22c a lb.; case, 1 60-lb. can, 23c a lb. Sample bottle by mail, 20c. J. M. Gingerich, Kalona, Iowa.

RASPBERRY HONEY for sale, left on the hive until thoroughly ripened by the bees. It is thick, rich, and delicious. In new 60-lb. cans. Price, two cans in one case, \$30.00. One can, \$15.50. Sample, 25c. Elmer Hutchinson & Son, Lake City, Mich.

HONEY AND WAX WANTED

Want Southern extracted honey; preferably carload. Must be fancy. A. J. Heard, Kirkwood, Ga.

Want fancy extracted or comb honey for cash. C. E. Woodhull, 320 Calvert Ave, Detroit, Mich.

BEESWAX WANTED.—For manufacture into SUPERIOR FOUNDATION. (Weed Process.) Superior Honey Co., Ogden, Utah.

WANTED.—Bulk comb, section, and extracted honey. Write us what you have and your price. J. E. Harris, Morristown, Tenn.

WANTED.—Extracted and comb honey. Carload or less quantities. Send particulars by mail and samples of extracted. Hoffman & Hauck, Inc., Woodhaven, N. Y.

BEESWAX WANTED.—We are paying higher prices than usual for beeswax. Drop us a line and get our prices, either delivered at our station or your station as you choose. State how much you have and quality. Dadant & Sons, Hamilton, Illinois.

WANTED.—Beeswax. We are paying 1 and 2c extra for choice yellow beeswax and in exchange for supplies we can offer a still better price. Be sure your shipment bears your name and address, so we can identify it immediately upon arrival, and make prompt remittance. The A. I. Root Co., Medina, Ohio.

FOR SALE

HONEY LABELS.—New designs. Catalog free. Eastern Label Co., Clintonville, Conn.

FOR SALE.—A full line of Root's goods at Root's prices. A. L. Healy, Mayaguez, Porto Rico.

FOR SALE.—SUPERIOR FOUNDATION, "Best by Test." Let us prove it. Order now. Superior Honey Co., Ogden, Utah.

Good second-hand honey cans, 35c per case; 170-pound kegs at 25c each. How many? J. E. Crane & Son, Middlebury, Vt.

FOR SALE.—100 second-hand cases, each containing two 5-gallon cans. S. T. Fish & Co., 163 W. So. Water St., Chicago, Ill.

FOR SALE.—Second-hand honey tins, two per case, in exceptionally fine condition at 50c per case. Hoffman & Hauck, Inc., Woodhaven, N. Y.

How many queens have you lost introducing? Try "The Safe Way," push-in-comb introducing cage, 50c. Postpaid. O. S. Rexford, Winsted, Conn.

FOR SALE.—Ten-frame standard dovetailed hives in lots of from one to fifty. Very cheap. Write for prices. Wm. Craig, Aitkin, Minn.

ROOTS BEE SUPPLIES.—For the Central Southwest Beekeeper. Beeswax wanted. Free catalog. Stiles Bee Supply Co., Stillwater, Okla.

FOR SALE.—27 shallow supers with frames, 10-frame size. Price, \$25.00. O. Peterson, St. C, 14 Steele St., Worcester, Mass.

PORTER BEE ESCAPES save honey, time, and money. Great labor-savers. For sale by all dealers in bee supplies. R. & E. C. Porter, Lewistown, Ills.

FOR SALE.—Four-frame extractor, reversible, 40-gal. tank and pump, 1½ H. P. engine. Brand-new, \$150 cash. I. V. Beaupre, 1826 Bell Ave., Flint, Mich.

FOR SALE.—Good second-hand empty 60-lb. honey cans, two cans to the case, at 60c per case f. o. b. Cincinnati. Terms, cash with order. C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, O.

FLORIDA BEEKEEPERS.—You can save money by placing your order for Root's Bee Supplies with us. We carry the complete line. Will buy your beeswax. Write for catalog. Crenshaw Bros. Seed Co., Tampa, Fla.

FOR SALE.—2 H. P. boiler and engine; boiler, \$25.00; engine, \$15.00; both, \$40.00.
J. W. Utter, Amity, N. Y.

FOR SALE.—6000 B grade Root sections $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ in original packages, at \$10.00 per 1000; also ten 8-frame Root chaff hives in good condition, \$30.00.
Dellon D. Smith, Wyoming, N. Y.

FOR SALE. — One 8-frame Root's automatic power honey-extractor; one honey pump, one gasoline engine. I will sell all together, or any one separately. Write for price.
Elmer Hutchinson, Lake City, Mich.

FOR SALE.—Root's 8-frame power extractor (12-in. pockets), Peterson capping melter, separating can, and Root's steam-heated uncapping knife with copper boiler. Have never been used.
A. J. Schultz, Ripon, Wis.

FOR SALE.—Good second-hand double-deck comb-honey shipping cases for $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ sections, 25c per case, f. o. b. Cincinnati. Terms, cash with order. C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

CANADIAN BEE SUPPLY & HONEY CO., Ltd.—73 Jarvis St., Toronto, Ont. (Note new address.) We have made-in-Canada goods; also can supply Root's goods on order. Extractors and engines; GLEANINGS and all kinds of bee literature. Get the best. Catalog free.

FOR SALE.—Root's Extractors and Smokers, Dadant's Foundation, and a full line of Lewis' Bee-ware. Our new price list will interest you. We pay 38c in cash, and 40c in trade for clean yellow beeswax delivered in Denver. The Colorado Honey Producers' Association, 1424 Market St., Denver, Colo.

WANTS AND EXCHANGE

WANTED.—Medium-size extractor; must be in perfect condition.
R. F. Evershed, Irondequoit, N. Y.

WANTED.—Old combs and cappings for rendering on shares. Our steam equipment secures all the wax.
Superior Honey Co., Ogden, Utah.

WANTED.—Shipments of old combs and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, O.

OLD COMBS WANTED.—Our steam wax-presses will get every ounce of beeswax out of old combs, cappings or slumgum. Send for our terms and our new 1920 catalog. We will buy your share of the wax for cash or will work it into foundation for you.
Dadant & Sons, Hamilton, Illinois.

BEEES AND QUEENS

Finest Italian queens. Send for booklet and price list.
Jay Smith, R. D. No. 3, Vincennes, Ind.

Hardy Italian queens, \$1.00 each.
W. G. Lauver, Middletown, Pa.

Golden Italian queens, untested, \$1.25 each; dozen, \$12.00.
E. A. Simmons, Greenville, Ala.

FOR SALE.—1920 Golden Italian queens, price list free. Write E. E. Lawrence, Doniphan, Mo.

THAGARD'S Italian queens, circular free, see larger ad elsewhere. V. R. Thagard, Greenville, Ala.

When it's GOLDEN it's Phelps'. Try one and be convinced. Virgins, \$1.00; mated, \$2.00.
C. W. Phelps & Son, Binghamton, N. Y.

Simmon's Strain, golden and three-banded queens; 1, \$2.00; 6, \$10.00. Also nuclei.
Allen B. Simmons, Claverack, N. Y.

NOTICE.—No more queens or bees for sale this season.
Robt. B. Spicer, Wharton, N. J.

FOR SALE.—Untested Golden Italian queens, \$1.25. Tested queens, \$2.50.
J. F. Michael, Winchester, Ind.

PHELPS' GOLDEN QUEENS will please you. Mated, \$2.00. Try one and you will be convinced.
C. W. Phelps & Son, Binghamton, N. Y.

FOR SALE.—Italian queens, three-banded and Golden, untested, \$1.25 each; 6, \$6.50; 12, \$13.00. Now ready.
G. H. Merrill, Pickens, S. C.

Queens of Dr. Miller's strain, untested, \$1.50 each; \$15.00 per doz. Tested, \$2.00 each; \$22.00 per dozen. Safe arrival and satisfaction guaranteed. Geo. A. Hummer & Sons, Prairie Point, Miss.

FOR SALE.—Pure Italian queens, packages and nuclei. One untested queen, \$1.50; 6, \$7.50; 12, \$13.50; 50, \$55.00; 100, \$100.00.
Golden Star Apiaries, San Jose, Calif.

FOR SALE.—My famous three-band Italian queens, one for \$1.25; six for \$7.00. From June 1 to November.
J. W. Romberger, 3113 Locust St., St. Joseph, Mo.

FOR SALE.—Leather-colored Italian queens from Dr. Miller's breeder. Virgins, \$1.00; tested, \$1.50. July 1, 5, \$6.00; 10, \$11.00.
F. R. Davis, Stanfordville, Dutchess Co., N. Y.

FOR SALE.—Best three-banded Italian queens ready June 10. Untested only, one, \$1.50; 6, \$8.00; 12, \$15.00. Particulars on request.
Ross B. Scott, Lagrange, R. D. No. 4, Ind.

FOR SALE.—QUEENS. Italian queens of excellent stock will be ready to mail June 1. Untested, \$1.50 each; 6, \$7.50; 12, \$14.00.
J. D. Harrah, R. D. No. 1, Freewater, Oregon.

FOR SALE.—Leather-colored Italian queens, tested, until June 1, \$2.50; after \$2.00. Untested, \$1.25; 12, \$13.00. Root's goods at Root's prices.
A. W. Yates, 15 Chapman St., Hartford, Conn.

Golden queens ready April 15th. One queen, \$1.50; 6, \$7.50; 12, \$14.00; 100, \$100.00. Virgins, 75c each.
W. W. Talley, Greenville, R. D. No. 4, Ala.

FOR SALE.—Golden queens. Orders filled in rotation. Untested, \$1.10; select untested, \$1.50 each. Safe arrival.
Hazel V. Bonkemeyer, Randleman, R. D. 2, N. C.

BEEES BY THE POUND. — Also QUEENS. Booking orders now. FREE circulars give details. See larger ad elsewhere. Nueces County Apiaries, Calallen, Texas, E. B. Ault, Prop.

FOR SALE. — Hardy Northern-bred Italian queens, untested, \$2.00 each; 6, \$11.00; select tested, limited number, \$3.00 each after June 1.
Dr. C. E. Sheldon, Coeur d'Alene, Idaho.

QUEENS OF QUALITY.—Our Hand-Moore strain of three-banded Italians are beautiful, and good honey-gatherers. Bred strictly for business. Untested, \$1.50; half-dozen, \$8.00. Select, \$2.00.
W. A. Latshaw Co., Clarion, Mich.

FOR SALE.—Golden Italian queens, untested, \$1.15; 6 for \$6.50; 12 or more, \$1.00 each; tested \$2.00 each; select tested, \$3.00 each; extra-select tested, \$4.00 each. No bees for sale.
D. T. Gaster, Randleman, R. D. 2, N. C.

ITALIAN QUEENS.—Three-banded, select, untested, guaranteed. Queen and drone mothers are chosen from colonies noted for honey production, hardiness, prolificness, gentleness, and perfect markings. Price, \$1.25 each; 12 or more, \$1.00 each. Send for circular.
J. H. Haughey, Berrien Springs, Mich.

FOR SALE.—1920 prices for "She suits me" queens. Untested Italian queens, from May 15 to June 15, \$1.50 each. After June 15, \$1.30 each; \$12.50 for 10; \$11.00 each when 25 or more are ordered. Allan Latham, Norwichtown, Conn.

PHELPS' GOLDEN ITALIAN QUEENS combine the qualities you want. They are **GREAT HONEY-GATHERERS, BEAUTIFUL and GEN-TLE.** Virgins, \$1.00; mated, \$2.00.
C. W. Phelps & Son, Binghamton, N. Y.

Golden Italian queens that produce golden bees; the highest kind, gentle, and as good honey-gatherers as can be found: May to August, untested, each, \$2.00; six, \$8.00; doz., \$15.00; tested, \$4.00; breeders, \$5.00 to \$20.00. J. B. Brockwell, Barnetts, Va.

FOR SALE.—Three-band leather-colored Italian queens. Safe arrival guaranteed. No disease. Hustlers, none better. 1, 1.00; 12, \$10. Write for circular and prices on quantities.

J. M. Cutts, R. D. No. 1, Montgomery, Ala.

FOR SALE.—Mr. Beeman, head your colonies of bees with the best Italian stock raised in the South. One queen, \$1.25; 12 queens, \$14.00. One pound of bees with queen, postpaid, \$6.00. Safe arrival and satisfaction guaranteed.

M. Bates, Greenville, R. D. No. 4, Ala.

DAY-OLD QUEENS at practical prices. Superior improved Italian stock. Mailed in safety introducing cages. Safe arrival guaranteed to any part of the U. S. and Canada. Send for circular. Prices, 1, 75c; 10, \$6.00; 100, \$60.00.

James McKee, Riverside, Calif.

"Those who think must govern those who toil;" for the busy bee man who must keep an efficient force always at his command in the hive there's no helper equal to Victor's Italian queens. Mated, 1.25 each; 6, \$7.00; 12, \$13.50.

Julius Victor, Martinsville, N. Y.

BOZZALLA LIGURIAN QUEENS.—Import direct from Italy, selected tested Italian queens, \$3.50 each. Every queen comes from Enrico Bozzalla's Queen Rearing Apiaries to you direct. No risk. Safe arrival guaranteed. Remit to sole agent.

H. M. Stich, Riccartbar Ave., Paisley, Scotland.

TESTED QUEENS.—Three-banded leather colored Italians, descended from the celebrated Moore strain. These queens are one year or less old, right in their prime. Price, \$2.00 each. Safe arrival and satisfaction guaranteed. A few breeding queens, \$5.00 each.

Elmer Hutchinson & Son, Lake City, Mich.

QUEENS.—Select three-banded Italians. Reared from the best mothers and mated to choice drones. Ready to ship May 1. Untested, one, \$2.00; six, \$9.00; twelve, \$16.80. After June 1, one, \$1.50, six, \$8.00; twelve, \$14.00. Select tested, \$3.00 each. Write for prices per 100. Descriptive circular free.

Hardin S. Foster, Dept. G, Columbia, Tenn.

We have enlarged our queen-yard considerably. We can take care of orders better than ever, large or small. April 15 to June 1, untested queens, \$1.25; tested, \$2.50; untested, \$115.00 per 100. After June 1, \$1.00 each or \$90.00 per 100. J. A. Jones & Son, Montgomery, R. D. No. 1, Box 11a, Ala.

FOR SALE.—By return mail, three-banded leather-colored Italian queens from the very best honey-gathering strain, \$1.50 each, or \$15.00 per dozen; tested, \$2.00 each. You can buy cheaper queens elsewhere, but you can not get better queens anywhere. Delivery and satisfaction guaranteed.

Jasper Knight, Hayneville, Ala.

ITALIAN QUEENS.—The Old Reliable three-banded Italians, the best all-around bee to be had. Queens ready to mail April 1, 1920. Will book orders now. Will guarantee safe arrival in United States and Canada. Prices for April and May: Untested, \$1.50; 6, \$8.00; 12, \$15.00. Tested, \$2.25; 6, \$12.00; 12, \$22.00. Select tested, 3.00 each. Descriptive circular and price list free.

John G. Miller, 723 C St., Corpus Christi, Texas.

PURE ITALIAN QUEENS.—Not the cheapest, but the best we can grow; bright yellow, with clean bill of health; sure to please; such as we use in our own yards. Untested, \$1.25; \$14.00 per dozen.
J. B. Notestein, Bradentown, Fla.

Highest grade three-banded Italian queens. Virgins, 75c each; untested, each, \$1.25; 6, \$6.50; 12, \$12.00; 50, \$47.50; nuclei, \$3.00 per frame, queens extra. No disease, and satisfaction guaranteed.

A. E. Crandall, Berlin, Conn.

FOR SALE.—Italian queens. Prices for untested in June, \$1.50 each; 6, \$8.25; 12, \$16.00; tested, \$2.50 each. After July 1, untested, \$1.25 each, 6, \$7.00; 12, \$13.50; tested, \$2.00 each; virgins, 75c each. Mismatched queens replaced if returned in 30 days. Dead queens replaced if returned by return mail. Untested, ready to ship June 1 to June 10.

R. B. Grout, Jamaica, Vt.

MISCELLANEOUS

Write for shipping tags and our prices for rendering your old combs, cappings, etc. We guarantee a first-class job. The Deroy Taylor Co., Newark, N. Y.

HELP WANTED

WANTED.—One experienced man, and students or helpers in our large bee business; good chance to learn. Modern equipment and outfit, including auto truck; located near summer resorts. Write, giving age, height, weight, experience, reference, and wages wanted.

W. A. Latshaw Co., Clarion, Mich.

PATENTS Practice in Patent Office and Court
Patent Counsel of The A. I. Root Co
Chas. J. Williamson, McLachlan Building,
WASHINGTON, D. C.

Mott's Northern-bred Italian Queens

Untested, \$1.00 each; \$12.00 per dozen. Select untested, \$1.25 each; \$15.00 per dozen.
Select guaranteed, pure mated, \$1.50 each. Select tested, \$2.50 each.
Plans "How to Introduce Queens, and Increase." 25c

E. E. Mott, - - Glenwood, Mich.

QUEENS

Golden and three-band Italians. The kind that fill from two to four supers.
Untested, \$2.00 each; \$11.00 for 6; \$45.00 for 25. No discount for 50 or 100 lots. Tested, \$3.00 each; \$16.00 for 6. Send orders for queens as early as possible.
Full colonies (bees and queen) \$12.00 and \$15.00 for 8- and 10-frame Root Co. hives.
S. C. R. I. Red eggs for hatching (280 egg trapnested strains) \$2.50 per 15. \$12.00 per 100.

MISS LULU GOODWIN, Mankato, Box 294, Minn.

ATTENTION

Pacific Northwest Beekeepers

We handle a full line of supplies for beekeepers, including Italian Queens. Write us your requirements and for our catalog B. It's free.

Spokane Seed Company, Spokane, Wash.

904 First Avenue

(Continued from page 488.)

which gathered at Newark on July 17. There was a large attendance and much interest and much enthusiasm were shown. All present reported an unprecedented honey flow and an unusual crop. Editor E. R. Root was among the speakers.

The annual summer meeting and basket picnic of the Livingston-Wyoming County Beekeepers' Association will be held at the apiary of W. E. Spink, Varysburg, N. Y., on Sept. 1. All beekeepers welcome.

The second Wisconsin Beekeepers' Field Meet and Chautauqua will be held August 16 to 21 at Madison. Dr. E. F. Phillips and Geo. S. Demuth will act as chief instructors, while such leaders as C. P. Dadant, N. E. France, E. R. Root, H. F. Wilson and others equally well known will be present. A whole garden has been grown on the University grounds to help feed those who attend. This is indeed a great opportunity for beekeepers of Wisconsin and adjoining States to enjoy a very pleasant and very profitable week.

Advertisements Received too Late to Classify

FOR SALE.—Finest quality white-clover extracted honey, well ripened and of good flavor, put up in new 60-lb. and 12-lb. cans, and 10- and 5-lb. pails. Also some nice comb honey.

R. C. Ortleib, Dolgeville, N. Y.

WESTERN HEADQUARTERS for PURE ITALIAN QUEENS, the old reliable three-banded stock, bred strictly for business. My select untested are LAYING before being caged; less loss introducing. Price after Aug. 1, 1, \$1.50; 12 or more, \$1.25 each. Tested, \$2.00. Breeders, \$5.00. Circular free.

J. E. Wing, 155 Schiele Ave., San Jose, Calif.

NOTICE TO OUR PATRONS.—We have just received a small supply of the well-known "Marugg Special" grass blades at very acceptable prices. The stock is limited and the supply for the future from our factory in Germany uncertain.

The Marugg Company, Tracy City, Tenn.

FOR SALE.—100 regular shipping cases for 4 1/4 x 4 1/4 x 1 1/2 sections; 50 shipping cases for 4 x 5 sections, in lots of 50. Priced to sell.

Stiles Bee Supply Co., Stillwater, Okla.

FOR SALE.—Try the push-in-comb queen introducing cage, 50c postpaid. H. J. Dahl, 1272 Michigan Ave., Buffalo, N. Y.

FOR SALE.—30 large storage cans with honey gates, 100 or more standard 60-lb. shipping cans with screw tops, round and square cans from 20 to 60 lbs., all clean and suitable for shipping extracted honey; 100 lbs. unopened cases of foundation; 2 extracting machines, tanks for cappings, a quantity of lumber suitable for use in the business, and many suitable articles too numerous to mention.

J. R. Sturtevant, Theresa, N. Y.

FOR SALE.—200 colonies of bees, 20 acres of land, 2 two-room houses, 2 three-room. Good location, 7 miles to Montgomery, Ala., on gravel road. Bees filling up on sweet clover. Will sell before taking off honey. Good alfalfa land. Write to W. H. Jones, Montgomery, Ala., R. D. 1.

FOR SALE.

On the following list of goods you can make a saving of from 20 per cent up, if you act promptly:

Shipping Cages for Pound-Bees, New.

1500 1-lb. Packages, complete, at..... 40c
470 2-lb. Packages, complete, at..... 52c
140 3-lb. Packages, complete, at..... 75c
60 1-lb. Packages, nailed, not screened 30c
500 2-lb. Packages, nailed, not screened 40c

These are the packages recommended by the Texas Beekeepers' Association.

Queen-Rearing Nuclei.

975 Standard 4-frame Nuclei, Hoffman frame, nailed and painted, at....\$1.00
140 8-frame Hives, divided in the center, N. P., at.....\$2.00
45 10-frame Hives, divided in 2 and three parts, at.....\$2.10

10-Frame Hive Bodies.

110 10-frame Hive Bodies, empty, N. P., at.....\$0.80
150 10-frame Hive Bodies, with foundation, N., at.....\$2.20
40 10-frame Hive Bodies, with wired frames, N., at.....\$1.30
10 frame Covers, N. P., at.....\$0.72
10-frame bottoms, reversible, N.60
8-frame Telescope metal Roof Covers, N. P., at.....\$1.00
10-frame Bottoms, in flat.....\$0.50
350 10-frame Excluders at \$0.55 and \$0.65
Medium Brood Foundation, Dadant, lb. \$0.67
Light Brood, lb.\$0.70
Thin surplus for shallow frames, lb.\$0.72
Write for further information and bargains.

W. J. FOREHAND & SONS,

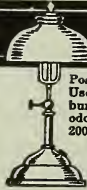
Fort Deposit

Alabama

I. F. MILLER'S STRAIN

Italian Queen bees for sale. Northern-bred, for business from my best, *Superior Breeders*; gentle, roll honey in, hardy, winter well, not inclined to swarm, three banded. Queens a specialty, twenty-six years' breeding experience. Satisfaction guaranteed. Safe arrival in U. S. and Canada.
Untested .. \$1.40; 3, \$3.75; 6, \$7.00; 12, \$13.00
Select Unt. . \$1.65; 3, \$4.50; 6, \$8.50; 12, \$16.00

I. F. MILLER, Rt. No. 2, BROOKVILLE, PA



The "BEST" LIGHT

Positively the cheapest and strongest light on earth. Used in every country on the globe. Makes and burns its own gas. Casts no shadows. Clean and odorless. Absolutely safe. Over 200 styles. 100 to 2000 Candle Power. Fully Guaranteed. Write for catalog. AGENTS WANTED EVERYWHERE.

THE BEST LIGHT CO.
306 E. 5th St., Canton, O.

MICHIGAN-BRED QUEENS—THREE-BANDED ITALIANS ONLY TESTED DISEASE-RESISTERS

PRICES	June 15 to July 15			July 15 to Oct. 1			
	1	6	12	1	6	12	100
Untested	\$1.50	\$8.00	\$15.00	\$1.30	\$7.50	\$13.50	\$110.00
Select Untested	1.75	9.00	16.00	1.60	8.00	14.00	115.00
Select Tested any time after June 20.....				3.00	16.00	29.00	
Select Day-old Virgins after June 1.....				.60	3.50	6.50	50.00

D. A. DAVIS, 216 GREENWOOD, BIRMINGHAM, MICHIGAN

ALWAYS GOOD QUEENS

I furnish the A. I. Root strain of resistant queens that produce as good as the best of honey-gathering leather-colored workers.

A trial will convince you.

UNTESTED—\$1.50 each;	- - - - -	25 or more, \$1.40
TESTED — \$2.50 each;	- - - - -	25 or more, \$2.25
SELECT TESTED, \$3.00.		

A. J. PINARD, MORGAN HILL, CALIFORNIA

200 SELECT TESTED QUEENS

Beginning August 1st, we will sell 200 select tested queens, selected from our 10 apiaries and bred from a \$200 queen. These queens are the result of 35 years of practical experience in breeding the very best strain of Italian bees that could be obtained. Our guarantee is back of every queen. If you want to requeen your bees, you could not buy a better queen for a breeder.

Prices of these select queens, \$3.00 each in any quantity. Untested \$1.75 each.

ORDERS FILLED IN ROTATION.

FRED LEININGER & SON, -:- DELPHOS, OHIO

Q U E E N S

“THE SUCCESS OF BEEKEEPING DEPENDS ON GOOD QUEENS”

Why not get those colonies headed with a good queen? Farmer queens are of highest quality, bred by us personally. We are skillful and experienced queen-breeders. 10 years' experience in breeding queens insures queens of highest quality. We do not leave anything undone. We guarantee our queens to be reared under as favorable conditions as any in U. S. A., and that no better can be bought with money. The strain is proved and of highest quality. Now for your 1921 honey crop you are wanting more honey; to get more you must have your colonies headed with good queens. Let us have your orders for August and September. We guarantee safety from all foul-brood disease because our apiaries are absolutely free from any disease.

Prices from August to September

	1	6	12	100
Untested.	\$1.50	\$7.50	\$13.50	\$1.00 each
Select Untested	1.75	9.00	16.50	1.25 each
Tested.	2.50	13.00	24.50	2.00 each
Select Tested	4.00	22.00	41.50	3.35 each

* We guarantee everything we sell; you take no risk when you deal with us; safe arrival and satisfaction is our motto; customer is the judge. Reference: Bank of Ramer, Ramer, Ala.

The Farmer Apiaries - - Ramer, Alabama

“Where the Good Queens come from”

"Special Crops" A high-class illustrated monthly journal devoted to the Growing and Marketing of Ginseng, Golden Seal, Senega Root, Belladonna, and other unusual crops. \$1.00 per year. Sample copy 10c. Address Special Crops, Box G, Skaneateles, New York

INDIANOLA APIARY

Will furnish 3-banded Italian Bees and Queens as follows: Untested Queens, \$1.00; Tested, \$1.50. Nucleus, \$2 per frame, queen extra.

J.W.SHERMAN, VALDOSTA, GA.

NEW ENGLAND

BEEKEEPERS will find a complete stock of up-to-date supplies here. Remember we are in the shipping center of New England. If you do not have a 1920 catalog send for one at once.

H. H. Jepson, 182 Friend St., Boston, Mass.

BEES

We furnish full colonies of Italian bees in double-walled hives, single-walled hives, shipping-boxes, and three-frame nucleus colonies.

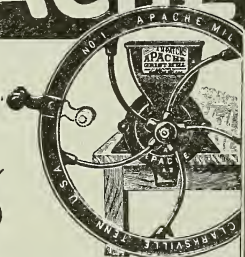
I. J. STRINGHAM, GLEN COVE, Nassau Co., N. Y.

This Ball Bearing APACHE

Grist Mill

PREPAID FOR ONLY

\$800



FEED the hopper, turn the wheel, and enjoy making your own wholesome whole wheat or graham flour, old-fashioned corn meal, rye flour, chops and hominy, and bring down living cost. Best coffee and spice grinder. If you have poultry, grind your chicken feed, save feed money and get more eggs.

Apache grinding plates of special mixture iron made to give longest wear. Steel ball bearings make it only a boy's job to run it. Send money or check today. Satisfaction guaranteed. For the present we can make prompt delivery. So don't delay.

A. H. PATCH, Inc., Clarksville, Tenn.

The Apache Grist Mill is companion to the Black Hawk Corn Sheller, famous for 35 years for its "Can't Wear Out" Guarantee.

NEWMAN'S ITALIAN QUEENS

Bred from the best. No disease. Satisfaction and safe arrival guaranteed.

Untested, \$1.50; 6, \$8.00; 12, \$15.00. Select Untested, \$2.00; 6, \$10.00; 12, \$19.00.

Circular free.

A. H. NEWMAN, - - MORGAN, KY.

World's Best Roofing at Factory Prices

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made.

Edwards "Reo" Metal Shingles

cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot-free, rust, lightning proof.



Free Roofing Book

Get our wonderfully low prices and free samples. We sell direct to you and save you all in-between dealer's profits. Ask for Book No. 883

LOW PRICED GARAGES

Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles. THE EDWARDS MFG. CO., 833-883 Pike St., Cincinnati, O.

FREE
Samples &
Roofing Book

Beeswax Wanted

In big and small shipments, to keep Buck's Weed-process foundation factory going. We have greatly increased the capacity of our plant for 1920. We are paying higher prices than ever for wax. We work wax for cash or on shares.

Root's Bee-supplies

Big stock, wholesale and retail. - Big catalog free.

Carl F. Buck

The Comb-foundation Specialist

Augusta, Kansas

Established 1899

Our Food Page—Continued from page 472.

or if you are inexperienced in bread-making, try half the recipe.

BREAD

2 cakes compressed yeast 1 tablespoon honey or
3 cups scalded milk sugar
3 cups water About 4½ quarts sifted
1 tablespoon salt flour

Break up and soften the yeast cakes in 1 cup of the water which should be warm, not hot; scald the rest of the milk and water and pour into the bread mixer. When it has cooled to lukewarm, add the softened yeast, the other ingredients, and all the flour, and turn the crank of the mixer until a smooth, elastic dough results, three to five minutes, cover closely with a cloth to keep out drafts and put in a warm part of the kitchen to rise, about 80 degrees F. A little more or less flour may be necessary to make a smooth dough; a little practice will enable you to tell just how much. More flour may be added if the dough is too soft; or a little wetting may be added, if too stiff to work well. The rule is about 3 parts flour to 1 of wetting when made in a bread mixer, but I find I obtain best results with a little more. It all depends upon the absorbing power of the flour.

When doubled in bulk, in 3 hours more or less, turn the crank again until the dough collects in a ball on the mixer, remove and form into loaves. Four loaves may be made, or four smaller loaves with a pan of rolls. Cover and let rise again until doubled in bulk, brush with cream or melted butter, and bake about one hour in a moderate oven.

Whole wheat flour may be substituted for half or more of the white flour. In whole wheat or graham bread it is also well to omit a part of the flour, making a softer dough, as the coarser breads dry out more quickly.

If a mixer is not used the flour should be worked in gradually with a large mixing spoon, and in the case of white bread, kneaded for a time by hand.

RAISIN BREAD.

1 tablespoon butter or 1½ cups warm milk
margarin ½ cup warm water
1 tablespoon honey About 6 cups sifted flour
1 teaspoon salt 2 cups seedless raisins
1 cake compressed yeast

Scald the milk, add the butter and honey, and cool to blood warm; soften the yeast in the warm water and add to the milk; add 2 cups of the flour,

(Continued on page 504.)

QUEENS OF MOORE'S STRAIN OF ITALIANS

Produce Workers
*That fill the super quick
With honey nice and thick*

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc. Untested queens \$1.50; 6, \$3.00; 12, \$15.00. Select untested, \$2.00; 6, \$10.00; 12, \$19.00. Safe arrival and satisfaction guaranteed. Circular free.

J. P. MOORE, Queen Breeder
ROUTE 1 MORGAN, KY.

"Best" Hand Lantern



A powerful portable lamp, giving a 300 candle power pure white light. Just what the farmer, dairyman, stockman, etc. needs. Safe—Reliable—Economical—Absolutely Rain, Storm and Bug proof. Burns either gasoline or kerosene. Light in weight. Agents wanted. Big Profits. Write for Catalog. **THE BEST LIGHT CO.**
306 E. 5th St., Canton, O.

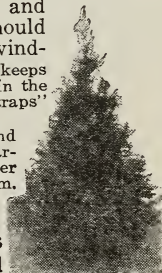
"Sun Traps" Save Fuel

EVERY farm home and every feed lot should have a "sun trap"—a wind-break of Evergreens which keeps out chilling winds yet lets in the warm sunlight. Such "sun traps" save fuel and save feed.

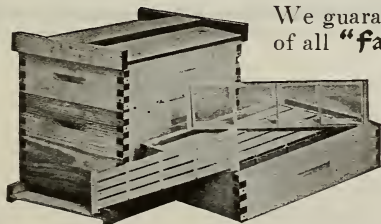
For windbreaks, hedges and ornamental planting, use Harrison's Evergreens. September is the ideal time to plant them.

Write for catalog today

Harrison's Nurseries
Box 65 Berlin, Maryland



Safe Arrival Guaranteed by "falcon"



We guarantee the safe arrival and absolute satisfaction of all "falcon" queens and bee supplies bought from us. Nor does our service end after the goods reach you.

Keep in touch with us at all times and in all seasons; we are equally interested in your results with "falcon" articles, as in all your beekeeping needs.

Write for Our Red Catalog

W. T. FALCONER MANUFACTURING CO.

Falconer (near Jamestown), N. Y., U. S. A.

"Where the best beehives come from"

Our Food Page.—Continued from Page 503.

beat until smooth, cover closely, and set to rise in a temperature of about 80 degrees. When this sponge has doubled in bulk, add the raisins, the rest of the flour or enough to make a smooth dough, and the salt, which has been sifted in the flour. Cover and let rise again until it has again doubled its bulk, knead down, form into two loaves, let rise until again doubled in bulk, and bake in a moderate oven about fifty minutes. If kept at the proper temperature this bread should be ready for the oven in about 4 hours from the time it is started.

SCONES.

Sponge as for raisin bread 2/3 cup honey
1 beaten egg ¼ cup shredded citron
¼ cup melted butter 1 cup chopped raisins
substitute About 4 cups flour

Make a sponge as in the recipe for raisin bread, add the above ingredients when it has doubled in bulk, knead until it is a smooth, elastic dough, let rise again, roll out and cut into rather large biscuits, cut each biscuit into quarters, let rise and when light brush with egg white diluted with a little water, and bake in a quick oven.

BRAN RAISIN MUFFINS.

1 ½ cups flour 1 egg well beaten
½ teaspoon salt 1 ½ cups sour milk
1 ½ teaspoons baking soda ¼ cup honey
1 teaspoon baking powder 2 tablespoons melted fat
1 ½ cups bran 1 cup raisins

Mix and sift the flour, salt, soda, and baking powder and stir in the bran. Combine the next four ingredients, stir in the first mixture, add the raisins, and bake in well-oiled muffin pans about 30 minutes.

SULTANA BISCUITS

2 cups sifted flour 1 cup Sultana raisins
½ teaspoon salt (seedless)
4 teaspoons baking powder 1 egg well beaten
4 tablespoons shortening About half cup milk
3 tablespoons honey
Combine the flour, salt, and baking powder and cut in the shortening with two knives, add the raisins, mix the egg, milk, and honey, and add to the other mixture to make a soft dough. Roll out, cut with a small cutter, and bake in a quick oven.

CONSERVE

1 qt. peaches, cut small Juice of half a lemon
1 cup raisins, cut small Juice of half an orange
½ cup nut meats 1 orange cut in very thin pieces

Honey
Combine the fruits and fruit juices, measure and for every cup of fruit add ¾ cup honey, cook until it thickens, add the nut meats and pour into sterilized jelly glasses and seal with melted paraffin, or it may be sealed in small fruit jars. It should be watched closely and stirred frequently to prevent scorching or acquiring a caramel flavor.

Queens--Rhode Island--Queens

Italian Northern-bred queens. Very gentle and hardy. Great workers. Untested, \$1.25 each; 6 for \$7.00. Circular on application. Queens delivered after June 1.

O. E. Tulip, Arlington, Rhode Island
56 Lawrence Street

MASON BEE SUPPLY COMPANY

MECHANIC FALLS, MAINE

From 1897 to 1920 the Northeastern Branch of The A. I. Root Company

Prompt and Efficient Service BECAUSE—Only Root's Goods are sold. It is a business with us—not a side line. Eight mails daily. Two lines of railway. If you have not received 1920 catalog send name at once.

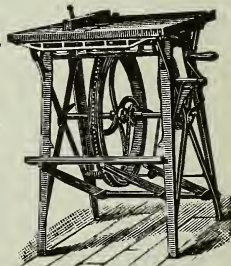
BARNES' Hand and Foot Power Machinery

This cut represents our combined circular saw, which is made for beekeepers' use in the construction of their hives, sections, etc.

Machines on Trial

Send for illustrated catalog and prices

W. F. & JOHN BARNES CO
545 Ruby Street
ROCKFORD, ILLINOIS



Established 1885

Write us for catalog.

BEEKEEPERS' SUPPLIES

The Kind You Want and The Kind That Bees Need.

We have a good assortment in stock of bee supplies that are mostly needed in every apia-ry. The A. I. Root Co's brand. Let us hear from you; information given to all inquiries. Beeswax wanted for supplies or cash.

John Nebel & Son Supply Co.
High Hill, Montgomery Co., Mo.

**BANKING
BY MAIL
AT 4%**

MAIL your Savings to this old-established bank—
Your money GROWS with us, as we pay four per cent interest, compounded twice a year.

Detailed information gladly furnished concerning our Banking by Mail Department.

THE SAVINGS DEPOSIT BANK CO.
A.T. SPITZER, Pres.
E.R. ROOT, Vice Pres. E.B. SPITZER, Cash.
MEDINA, OHIO

Lewis Bee Supplies—Dadant Foundation

A full line of supplies for the practical bee men at your command.
Additional information to beekeepers gladly supplied upon request.

A Post Card Will Bring Our Catalog—Write Dept. C.

Western Honey Producers :- Sioux City, Iowa

THAGARD'S ITALIAN QUEENS

Bred for Quality. My Three-band queens are bred from imported stock; they are hardy, prolific, gentle, disease-resisting, and honey-producers.

	After July 1st.		
	1	6	12
Untested	\$1.50	\$7.50	\$13.50
Select Untested	1.75	9.00	16.00
Tested	2.50	13.00	24.00
Select Tested	5.00	22.00	41.50

No reduction in prices after July 1st. as stated in circular.

V. R. THAGARD :- GREENVILLE, ALABAMA

1920 QUEENS 1920

A colony of bees with a poor queen is worth the hive and fixtures. A colony of bees with a good queen has no limit in value, the honey flow alone being the determining factor. I am using my thirty-five years of beekeeping and queen-rearing experience to produce the best that can be produced, and sell at a figure that will sustain the high quality of my queens.

PRICES

One, \$2; three, \$5.50; six, \$10; twelve, \$19. All amounts over one dozen, \$1.50 each. I sell only untested queens and make a specialty of this line. I select no queens, but try to have them all so good that there is little chance for selection. 1920 circular now ready.

Season opens April first.

P. C. CHADWICK KERN COUNTY DELANO, CALIF.

WHEN YOU THINK OF BEEKEEPERS' SUPPLIES

THINK OF INDIANAPOLIS

We carry a complete line of Root's goods and we solicit your trade. Our slogan: Courteous treatment and prompt service. Catalog for the asking.

THE A. I. ROOT COMPANY (Indianapolis Branch) 873 MASS. AVE.

QUEENS

FROM SELECT BREEDING

Twenty Years of Experimenting. We have nothing but the very best.

3-Band Only

Price Cash With Order
Before July 1st

Untested	- - - -	\$1.50
Selected	- - - -	2.25
Tested	- - - -	3.00
Selected	- - - -	3.50

Orders filled in rotation.
Write for prices in large quantities.

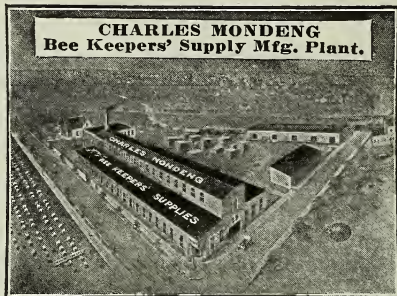
Did you get what you were looking for when you bought your last year's Queens? If not, try one that will please you. My queens are reared on a new system, large and prolific, surpassed by none but superior to many.

F. M. RUSSELL

ROXBURY, OHIO R. F. D. No. 2

BEE SUPPLIES

CHARLES MONDENG
Bee Keepers' Supply Mfg. Plant.



The largest and oldest Bee Supply manufacturer in Minnesota can offer you **bee ware** that will keep that "satisfied smile" on your face. Excellent quotations given on frames, spacing or unspacing. Send for my 1920 Catalog and Price List. **Think** it over and in thinking be **wise** and save money by placing your orders **before** the rush is on. *Will Take Beeswax in Trade at Highest Market Prices.*

CHARLES MONDENG

146 Newton Ave., N. Minneapolis, Minn.

PENNSYLVANIA BEEKEEPERS

Just Received Another Carload of

ROOT'S QUALITY BEE SUPPLIES

STANDARD HIVES
SECTIONS
BUCKEYE HIVES
HOFFMAN FRAMES
SUPERS
COMB FOUNDATION
SMOKERS, VEILS, ETC.

Immediate Shipment by Freight, Express, or Parcel Post

John N. Prothero, Dubois, Pennsylvania

Formerly Prothero, Bailey & Goodwin

Jobber of Root's Goods for Twenty Years

SELL YOUR CROP OF HONEY

TO

HOFFMAN & HAUCK, INC.

WOODHAVEN, N. Y.

NO LOT TOO LARGE OR TOO SMALL FOR US TO HANDLE

Mail Sample of Extracted, State Quantity and How
Packed and We Will Make You Our Best Offer

CONTAINERS FOR YOUR CROP

All Sizes, Glass or Tin

2½-lb. Pails, per case of 24.....	\$1.80 each	Crates of 100.....	\$7.00
5 -lb. Pails, per case of 12.....	1.65 each	Crates of 100.....	10.70
10 -lb. Pails, per case of 6.....	1.35 each	Crates of 100.....	17.00
White Flint Glass Quart Jars (3 lbs. honey) with gold lacquered screw caps, per case of 12.....			
			1.10
5-Gallon Tins, used, good condition, 2 tins per case.....			.60

HOFFMAN & HAUCK, Inc. :: :: WOODHAVEN, N. Y.

Are you ready to properly
~~market~~ market your crop?

Do you realize that good honey should be marketed in attractive, safe packages; that otherwise you will not get the maximum price for your honey?

Our fall specialty is a line of shipping cases and cans of this quality.

ROOT SHIPPING CASES

FRICTION-TOP PAILS

FIVE-GALLON SQUARE CANS

MAILING SAMPLES

FLINT GLASS JARS.

DROP US A CARD AND

ALLOW US TO QUOTE.

WE CAN INTEREST YOU.

The A. I. Root Company of Iowa,
Council Bluffs, Iowa

What can we do for you in the line of Supplies?

We are prepared to give our
best service in every way.

If short on foundation
order one or two
pounds by MAIL.

If almost out
of sections
order a
small
quantity by MAIL.
In this way you
will save time.

You will soon
be in need
of shipping
cases.
Let us
furnish
them for you.

We are always
in the market
for beeswax.
Write us for
prices.
Cash or trade.

Don't forget
that it is
YOU we want
to serve.

Veils

Are

Smokers

You

Tools

Going

Hives

to

Supers

Syracuse

Sections

for

Foundation

Supplies?

Extractors

F. A. Salisbury, 1631 W. Genesee St., Syracuse, N. Y.

HERE THEY ARE, MR. BEEKEEPER, AT NEWARK

Wayne County, New York, ready to answer your call, the best of everything!!

Just Read This List

Lewis Beeware, Sections, Shipping Cases, Frames, Hives, Hershiser Wax Press, and other supplies.

Dadant's Unexcelled Foundation, all standard weights and sizes. Also the Electric Wire Imbedder.

Bingham Uncapping Knives, including steam-heated with oil stoves and generators.

Bingham Smokers, all sizes, with genuine leather bellows.

Root's Extractors, all sizes of hand and power Machines.

Bee Books written by all leading authors in bee-dom.

All Sizes of Friction-top Pails and also 60-pound Cans, new and second-hand. Also Cement-coated Nails for nailing beehives and supplies.

All-sized Spools of Tinned Wire, Bee Brushes, Feeders, Queen-rearing Cages, Bee Gloves, Capping Melters, and all practical supplies you will need.

A Market for your Honey or Wax, and a plant to render your Old Combs and Cappings.

Over 1,000 Beekeepers took advantage of this Service Station at Newark in 1919, for the first time. Now *all together* for a greater 1920.

New Catalog Free, and Our Discounts Will Save You Money. Address

The Deroy Taylor Co., :- Newark, Wayne Co., New York

DOLL SAYS

don't invite Disappointments by delay in ordering your Honey Containers. Make sure of having all the Cans and Bottles you will need, by ordering them NOW. I am splendidly prepared to fill all orders for Friction Top Cans of 3 lbs. to 10 lbs. capacity—5-gallon Square Cans—and ½-lb. to 3-lb. white flint glass Screw Top Honey Bottles. Standard-grade goods, at prices that will interest you.

AN EASY WAY TO SAVE MONEY

You can save 15 per cent to 20 per cent on the cost of your Honey Cans and Bottles this year, by ordering them from DOLL—and instructing us to ship direct from factory to you.

I am also ready to make prompt shipments of anything wanted in the way of White Pine Hives, supers, extractors, Foundation, and other Supplies—none better to be had in either Style, Quality or Construction.

BE ready when the Honey begins to flow, by GETTING ready NOW.

**Be sure to get my price quotations
before ordering this year's Supplies.**

P. J. DOLL BEE SUPPLY CO.

NICOLLET ISLAND

MINNEAPOLIS, MINN.

Forehand's Three Bands

THE THRIFTY KIND

Twenty-eight years of select breeding brings these bees up to a standard surpassed by none, but superior to many.

Place your order now for August and September delivery.

No reduction in prices after July 1st as stated in circular.

PRICES:

	1	6	12	100 Each
Untested - - -	\$1.50	\$7.50	\$13.50	\$1.00
Select Untested - -	1.75	9.00	16.50	1.25
Tested - - - - -	2.50	13.00	24.50	2.00
Select Tested - -	4.00	22.00	41.50	3.35

W. J. FOREHAND & SONS, FORT DEPOSIT, ALA.
THE BEE MEN

Queens Bees by the Pound Queens

The rush of our bee-shipping season will practically be over by July 1st; we will then be in position to take care of your QUEEN orders.

Just received a picture from a party showing a colony built up from about 2 pounds of bees and a queen last spring, 1919, and then weighed 330 pounds gross; others in the yard did better than that one. We have had colonies here gather 400 pounds spring crop.

A party wrote from Chicago: "The shipment of bees was received on May 7th this year, hived same day; did not examine until 18th, when we found all queens accepted and they had laid in three frames. We greatly appreciate receiving such good grade of bees and hope to favor you with larger orders in the future." Another from Nebraska: "Wish to tell you how well pleased I am with the business done with you; some of the 50 packages had less than 100 dead bees in them. Those queens of yours are the best uniform QUEENS I have ever received. What is your price on 200 2-pound pkgs. with queens for spring 1921?" Our QUEENS are hardy gentle Italians; they grow bees that fill the supers. GUARANTEE safe arrival and satisfaction on QUEENS. With my method of feeding can ship bees successfully in July and August. Get a few packages and build them for the fall flow or winter. Send for FREE Circular giving reference, prices by Parcel Post, Nuclei, Guarantee, etc. Twenty years a beekeeper.

Advertising, labor, and sugar have all advanced, yet we quote Bees and Queens July 1st balance of the year as follows:

	1	6	12	50	100
Untested Queens	\$1.50	\$7.50	\$13.50	\$48.00	\$95.00
Select Untested Queens ..	1.65	8.25	14.85	52.80	104.50
Tested Queens	2.50	13.50	27.00	110.00	
Select Tested Queens	3.00	16.20			
1-pound pkg. Bees			\$2.40; 25 or more	\$2.16 each	
2-pound pkg. Bees			4.25; 25 or more	3.83 each	
3-pound pkg. Bees			6.25; 25 or more	5.62 each	

Add price of queen wanted when ordering bees.

NUECES COUNTY APIARIES -:- CALLEN, TEXAS

E. B. AULT, Prop.

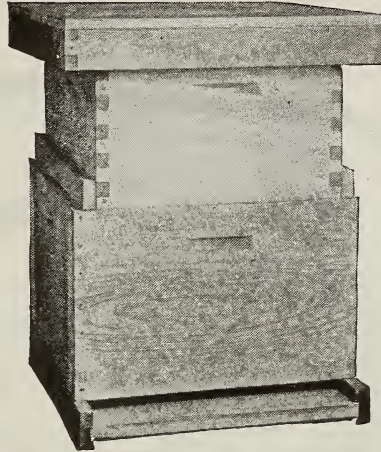
Your present brood equipment can be put above the Modified Dadant hive used as full depth supers.

Features are: Deep frames, large one-story brood nest, frame space ventilation, excellence in wintering, swarming easily controlled.

Glance at this illustration to compare this hive with "Standard" Langstroth hive.

You can get 40 per cent greater brood-comb area than in the "Standard" ten-frame Langstroth.

Modified Dadant Hive



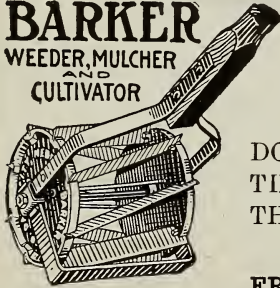
Modified Dadant Hive Features.

1. Eleven frames, Langstroth length, Quinby depth.
2. Frames spaced 1½ inches for swarm control.
3. Extracting frames 6¼ inches deep.
4. Dovetailed body, regular reversible bottom and metal roof cover with inner cover.
5. Langstroth "Standard" equipment easily used with this hive.

For free booklet write any distributor of Lewis "Beeware," or to

G. B. Lewis Company - - - - - Watertown, Wisconsin
Dadant & Sons - - - - - Hamilton, Illinois

BARKER WEEDER, MULCHER AND CULTIVATOR



Weeds and Mulches In One Operation

DOES BETTER WORK THAN A HOE—TEN TIMES AS FAST—SAVES TIME AND LABOR, THE TWO BIG EXPENSE ITEMS—EASY TO OPERATE.

FREE—Illustrated Book and Factory-to-User Offer

We want every garden grower to know just how this marvelous machine will make his work easier and increase his profits. So we have prepared a book showing photographs of it at work and fully describing its principle. Explains how steel blades, revolving against a stationary knife (like a lawn mower) destroy the weeds and at the same time break up the crust and clods and pulverize the surface into a level, moisture-retaining mulch.

"Best Weed Killer Ever Used"

LEAF GUARDS—The Barker gets close to the plants. Cuts runners. Has leaf guards; also easily attached shovels for deeper cultivation—*making three garden tools in one.* A boy can use it. Five sizes. Send today for book, free and postpaid.

BARKER
MFG. CO.
Dept. 10

DAVID CITY, NEB.

Gentlemen. — Send me postpaid your free book and Factory-to-User Offer.

BARKER MANUFACTURING CO.

Dept. 10

David City, Nebraska

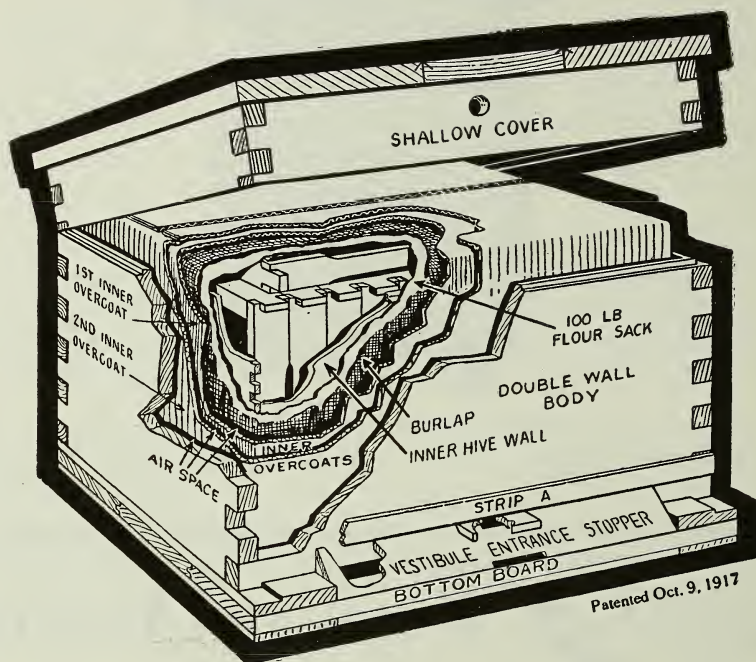
Name _____

State _____

Town _____

R. R. No. _____ Box _____

Winter Problem Solved by the Hive with an Inner Overcoat . .



Furnished with Jumbo Depth or Standard Hoffman Frames

Plan to try out a sample shipment of these hives the coming Winter and be convinced of their efficiency and durability. Our Winter's loss the past Winter of 1919-20 was less than 5 per cent, and this was due to starvation and poor Queens. The bees were confined to the hives without a flight for about 120 days. These hives will Winter normal colonies perfectly under the most severe conditions. We have many testimonials too numerous to publish. The two Inner Overcoats with intervening dead air spaces and inner covering or blankets close up about the brood-nest is what does the trick. A person could have any amount of blankets fastened up on the walls of a room and still freeze to death if left in the center of the room without close-up protection or insulation. If you can eliminate your Winter Losses, think what it will mean to you.

Order early, as freight is slow and uncertain and will get more serious as Winter approaches. Do not fail to try out a sample shipment. Catalog and special circulars sent on request.

TIN HONEY PACKAGES

2	lb. Friction top cans, cases of 24	5	lb. Friction top pails, crates of 100
2	lb. Friction top cans, crates of 612	5	lb. Friction top pails, crates of 200
2 ½	lb. Friction top cans, cases of 24	10	lb. Friction top pails, cases of 6
2 ½	lb. Friction top cans, crates of 450	10	lb. Friction top pails, crates of 100
5	lb. Friction top pails, cases of 12		

Ask for our special money-saving prices, stating quantity wanted.

A. G. Woodman Co., Grand Rapids Mich., U. S. A.

BEE SUPPLY PRICES

A Frank Talk with Beekeepers

No one likes high prices but the profiteer. We are all sick and tired and irritated by higher this, higher that, and higher everything. We have all waited for the turning point when things would begin "going down." We, as manufacturers of beekeepers' supplies, have hoped for this turning point as anxiously as any beekeeper could. We have been encouraged by seeing some necessities, such as men's and women's clothing, going to lower levels, and have hoped to see lower prices reach to metal and lumber materials. We have expected the tide to turn in our field of metal and wood manufacture, hoping not to have to advance prices. So it is that we have made only a very few minor advances now for two years.

But the turning point of higher prices of materials does not come in our field, and is not in sight at this date, July 1—because the manufacturers of metals and lumber are today swamped with orders at prevailing high prices. These high prices are going to continue while the rush of orders continues—and there is no turning point in sight.

Prices asked today on pine lumber are more than double, and basswood three times as much as prices in effect two years ago. Except for the fact that we had a year's lumber supply purchased in advance we would have been compelled to advance prices a year ago for the past season.

Metal parts of our extractors, smokers, uncapping knives, queen-excluders, etc., have increased from two to six times their former cost to us. Our labor cost has increased 60% during the past two years.

We put these plain facts of our own manufacturing situation before our customers to explain the absolute necessity for advancing the prices of a considerable part of our bee supplies. It becomes necessary to do this if we are to continue to manufacture for the beekeepers without actual loss.

We say to our beekeeping friends and customers that we shall reduce what both they and ourselves regard as too high prices just as fast as the price of materials used in our manufacture may permit. We do not like high prices for the beekeeper any better than the beekeeper himself likes them.

ROOT QUEENS

1 Untested Queen.....	\$2.00	24 Untested Queens...	\$40.80
6 Untested Queens....	11.40	48 Untested Queens...	76.80
12 Untested Queens....	21.60	100 Untested Queens and up-	
		wards—special prices quoted.	

Inquiries as to tested or breeding queens invited. The demand for these often exceeds our supply. So order well in advance.

Write or wire when deliveries are wanted. We are producing in large quantities this season, and with advanced information as to the wants of our customers we shall at times be able to quote unusually attractive prices on large quantities.

The A. I. Root Company, Medina, Ohio

Books - Labels - Stationery

Two New Books

OUT-APIARIES, by M. G. Dadant. Many valuable hints to the beekeeper who would extend his operations are to be found in this cloth-bound book of 125 pages. The author has had a lifetime experience in out-apiary management. Price, \$1.

AMERICAN HONEY PLANTS, by Frank C. Pellett. The first book in the English language on the honey plants. Invaluable to the live beekeeper who would make the most of his locality. The important honey sources of each State are listed separately and all treated in alphabetical order. 297 pages, 155 illustrations. Price, \$2.50.

Other Good Bee Books

Langstroth on the Honeybee, revised by Dadant. 575 pages, \$1.50.
First Lessons in Beekeeping, by C. P. Dadant, 167 pages, \$1.00.
1000 Answers to Beekeeping Questions, by C. C. Miller, \$1.25.
Practical Queen Rearing, by Frank C. Pellett, 105 pages, \$1.00.

Labels

Now is the time to create a permanent demand for Honey. A distinctive label will help to attract the consumer to your product. There are none better than turned out by our shop. Send for our new catalog of latest designs.

Stationery

Attractive printed matter will help your business. The printer in charge of our plant devotes his entire time to printing for beekeepers. Anything in the line of printed matter for beekeepers. Best quality, prompt service, and satisfied customers keep our shop busy.

American Bee Journal
Hamilton, Illinois